

Project No. 1251-100
Crude Oil Tank Farms Project, Agrood Area 30 (Module-1)



EGPC

System ID	030-LP-005
System Description	Tank-1 Fire Protection System

Sr.	Pre-Commissioning and Commissioning Dossier Index	Applicable (Yes/No)
1	Mechanical Completion Certificate (MCC)	
2	Ready for Startup Certificate (RFSU)	
3	System Punch Lists	
4	System Limits Marked Up P&ID	
5	System Index	
6	Piping Pre-Commissioning	
	6.01) Piping Test Packs	
	6.02) Piping Pre-commissioning Check Lists	
7	Piping Commissioning	
	7.01) Service Test, GLT, CLT and N2 Purging Certificates	
	7.02) Piping Commissioning Check Lists	
Sr.	Pre-Commissioning and Commissioning Dossier Index	Applicable (Yes/No)
8	Mechanical Pre-Commissioning	
	8.01) System Mechanical Index	
	8.02) Equipment Drawings	
	8.03) Equipment Datasheets	
	8.04) Boxing-up Certificates	

	8.05) Grouting Certificates	
	8.06) Pre-Alignment Certificates	
	8.07) Mechanical Pre-Commissioning Checklists	
9	Mechanical Commissioning	
	9.01) Final Alignment Certificates	
	9.02) Motor Solo Run Certificates	
	9.03) Mechanical Run Test (MRT) Certificates	
	9.04) Mechanical Commissioning Checklists	
	9.05) Mechanical Supplier Check Lists & Reports	
10	Instrumentation Pre-Commissioning	
	10.01) System Instrument Index	
	10.02) Instrument Data Sheets	
	10.03) Instrument Cable Schedule	
	10.04) System Instrumentation Wiring Diagram	
	10.05) Hook-up Drawing (Mechanical & Pneumatic)	
	10.06) Instruments Cables Schedule	
	10.07) Instruments Cables Laying Certificates	
	10.08) Instruments Cables Termination Certificates	
	10.09) Instruments Cables Testing Certificates	
	10.10) Instruments Calibration Certificates	
	10.11) Instrument Loop Checks Certificates	
	10.12) Instrumentation Pre-Commissioning Check Lists	
	10.13) Instrumentation Supplier Check Lists & Reports	
11	Instrumentation Commissioning	
	11.01) Instrumentation Function Test Certificates	
	11.02) Instrumentation Supplier Check Lists & Reports	
Sr.	Pre-Commissioning and Commissioning Dossier Index	Applicable (Yes/No)
12	Electrical Pre-Commissioning	
	12.01) System Electrical Index	
	12.02) Electrical Drawings	
	12.03) Motor Datasheets	
	12.04) Electrical Cables Schedule	
	12.05) Electrical Cables Laying Certificates	
	12.06) Electrical Cables Testing Certificates	
	12.07) Electrical Cables Termination Certificates	
	12.08) FAT Reports & Certificates	
	12.09) SAT Reports & Certificates	
	12.10) Electrical Pre-Commissioning Check Lists	
	12.11) Electrical Supplier Check Lists & Reports	

13	Electrical Commissioning	
	13.01) Electrical -Commissioning Check Lists	
	13.02) Electrical Supplier Check Lists & Reports	
14	Red Marked-up Drawings	
	14.01) P&ID	
	14.02) Instrumentation Drawings	
	14.03) Electrical Drawings	



Project: 01251-100
CRUDE OIL TANK FARM PROJECT (AGROOD AREA)



System ID	030-LP-005
System Description	Tank-1 Fire Protection System

1-Mechanical Completion Certificate (MCC)

SYSTEM MECHANICAL COMPLETION CERTIFICATE (MCC)

PROJECT TITLE : CRUDE OIL TANK FARM PROJECT (AGROOD AREA)

PROJECT No : 01251-100


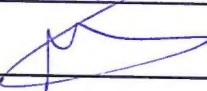
SYSTEM NAME : Tank-1 Fire Protection System

SYSTEM ID : 030-LP-005

THIS IS TO CERTIFY THAT:

- THE ABOVE SYSTEM HAS BEEN FABRICATED, ERECTED, INSTALLED AND TESTED TO THE REQUIREMENTS OF THE CONTRACT DRAWINGS, SPECIFICATIONS, THE APPLICABLE CODES AND STANDARDS.
- ALL PRE-COMMISSIONING RELEVANT ACTIVITIES, TESTS, INSPECTIONS AND CHECKS HAVE BEEN CARRIED OUT FOR THIS SYSTEM AND FOUND ACCEPTABLE.
- Q/C DOCUMENTATION OF THE ABOVE SYSTEM HAS BEEN AUDITED BY THE CUSTOMER SITE QUALITY CONTROL AND FOUND COMPLETED.
- ALL PUNCH LIST ITEMS CATEGORY (A) IN THIS SUBSYSTEM WERE CLEARED.
- THIS SYTEM IS MECHANICALLY COMPLETED ON THE DATE AND READY FOR COMMISSIONING (RFC) WITH THE FOLLOWING EXCEPTIONS.

EXCEPTIONS :

COMPANY	PETROJET	ENPPI	PMC
NAME	Sobhy Seleen	Mohamed Abkar	Mohamed omor
TITLE	Qc ESI engineer	Contr. Mgr.	I. Engineer
SIGNATURE			M. omor
DATE	1/9/2021		1/9/2021



Project: 01251-100
CRUDE OIL TANK FARM PROJECT (AGROOD AREA)



System ID	030-LP-005
System Description	Tank-1 Fire Protection System

2- Ready for Startup Certificate (RFSU)

READY FOR START UP CERTIFICATE

PROJECT TITLE : EGPC CRUDE OIL TANK FARMS PROJECT (AGROOD-02)

PROJECT No. : 1251-100

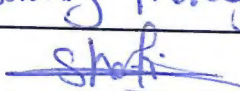
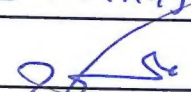
SYSTEM /AREA /PLANT : Tank-1 Fire Protection System

SYSTEM /AREA /PLANT No. : 030-LP-005

THIS IS TO CERTIFY THAT:

- THE MENTIONED SYSTEM /AREA /PLANT IS READY FOR START UP WHERE ALL MECHANICAL WORKS, PRECOMMISSIONING AND COMMISSIONING ACTIVITIES HAVE BEEN SUCCESSFULLY COMPLETED.
- MECHANICAL COMPLETION CERTIFICATE(S) FOR THE MENTIONED SYSTEM / AREA / PLANT HAVE BEEN SIGNED.
- ISSUANCE OF THIS READY FOR START UP CERTIFICATE(S) SHALL NOT RELIEVE CONTRACTOR(S) FROM THEIR OBLIGATIONS TO COMPLETE THE REMAINING SYSTEMS NOR FROM THEIR WARRANTY OBLIGATIONS AND OTHER PROVISIONS OF THE CONTRACT.
- THE FOLLOWING EXCEPTIONS AGREED TO BE CLEARED AFTER START UP AND WILL NOT PREVENT START UP ACTIVITIES.

EXCEPTIONS :

COMPANY	CONSORTIUM	PPC
NAME	Ahmed El Shafie	M. Saleh
TITLE	Commissioning Manager	Site Manager
SIGNATURE		
DATE		08/09/21



Project: 01251-100
CRUDE OIL TANK FARM PROJECT (AGROOD AREA)



System ID	030-LP-005
System Description	Tank-1 Fire Protection System

3- System Punch Lists

PROJECT TITLE : CRUDE OIL TANK FARM PROJECT (AGROOD AREA)

PROJECT NUMBER : 01251-100

DISCIPLINE: Loss Prevention

SYSTEM NAME: Tank-1 Fire Protection System

SYSTEM ID: 030-LP-005

SUB-SYSTEM NAME:

SUB-SYSTEM ID:

[illegible]



Project: 01251-100
CRUDE OIL TANK FARM PROJECT (AGROOD AREA)



System ID	030-LP-005
System Description	Tank-1 Fire Protection System

4- System Limits Marked Up P&ID

System ID	030-LP-005
System Description	Tank-1 Fire Protection System

5- System Index

System ID	030-LP-005
System Description	Tank-1 Fire Protection System

6- Piping Pre-Commissioning



Project: 01251-100
CRUDE OIL TANK FARM PROJECT (AGROOD AREA)



System ID	030-LP-005
System Description	Tank-1 Fire Protection System

6.01- Piping Test Packs



Project: 01251-100
CRUDE OIL TANK FARM PROJECT (AGROOD AREA)



System ID	030-LP-005
System Description	Tank-1 Fire Protection System

6.02- Piping Pre-commissioning Check Lists



Project: 01251-100
CRUDE OIL TANK FARM PROJECT (AGROOD AREA)



System ID	030-LP-005
System Description	Tank-1 Fire Protection System

7- Piping Commissioning

System ID	030-LP-005
System Description	Tank-1 Fire Protection System

7.01- Service Test, GLT, CLT and N2 Purging Certificates



Service Test Certificate of Completion and Acceptance

Client	Egyptian General Petroleum Corporation (EGPC)
Project No.	1251-100
Project Description	Crude Oil Tank Farm Project
Location	Agrood Area 30 (Module-01)
System	030-LP-005 (Tank-01 Fire Protection System)
Loop No.	030-LP-005 (Tank-01 Fire Protection System)
Test Medium	Firefighting Water
Test Pressure	Put in service
Completion Date	8-9-2021
Attachments	Leak Test Loop Marked-up P&ID

Remarks

- This is to certify that the system described in this certificate of completion has been Leak tested using water after final reinstatement and mechanical completion for the system in accordance with the requirements of the scope of work.
- The test has been witnessed by client representatives and accepted as complete in all aspects on the data marked on the certificate of completion and acceptance.
- The test has been completed to the client satisfaction.

Performed by PETROJET	Supervised by ENPPI	Approved by PPC
Name: Ahmed Elsayed	Name: Ahmed El Shafie	Name: M. Saleh
Title: Hydro test Eng	Title: Commissioning Manager	Title: Site Manager
Signature: 	Signature: 	Signature:
Date: 8/9/21	Date: 8.9.21	Date: 08/09/2021

محضر اجتماع

بخصوص تجربة شبكات التبريد والإطفاء لمستودع رقم (١)

بموقع الشركة العامة بعجروود

إنه فى يوم الاربعاء الموافق ٢٠٢١/٠٩/٠٨م، تم إجراء تجارب اختبار شبكات التبريد والإطفاء لمستودع رقم (١) بموقع الشركة العامة بعجروود، بحضور ممثلى قطاع السلامة بشركة أنابيب البترول.

- وقد تبين أن منظومة التبريد والفوم تعمل بكفاءة وبنجاح.

شركة أنابيب البترول



شركة أنبى

Ahmed El Shafie
Commissioning Mgr



8.8.21



Service Test Certificate of Completion and Acceptance

Client	Egyptian General Petroleum Corporation (EGPC)
Project No.	1251-100
Project Description	Crude Oil Tank Farm Project
Location	Agrood Area 30 (Module-01)
System	030-LP-005 (Tank-01 Fire Protection System)
Loop No.	030-LP-005 (Tank-01 Fire Protection System)
Test Medium	Firefighting Water
Test Pressure	Put in service
Completion Date	8-9-2021
Attachments	Leak Test Loop Marked-up P&ID

Remarks

- This is to certify that the system described in this certificate of completion has been **Leak tested using water** after final reinstatement and mechanical completion for the system in accordance with the requirements of the scope of work.
- The test has been witnessed by client representatives and accepted as complete in all aspects on the data marked on the certificate of completion and acceptance.
- The test has been completed to the client satisfaction.

Performed by PETROJET	Supervised by ENPPI	Approved by PPC
Name: Ahmed Elsayed	Name: Ahmed El Shafei	Name: Y. Saleh
Title: Hydro test Eng	Title: Commissioning Manager	Title: Site Manager
Signature: 	Signature: 	Signature:
Date: 8/9/21	Date: 8.9.21	Date: 08/09/2021

System ID	030-LP-005
System Description	Tank-1 Fire Protection System

7.02- Piping Commissioning Check Lists

System ID	030-LP-005
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System Description	Tank-1 Fire Protection System
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8- Mechanical pre-Commissioning

System ID	030-LP-005
System Description	Tank-1 Fire Protection System

8.01- System Mechanical Index

System ID	030-LP-005
System Description	Tank-1 Fire Protection System

8.02- Equipment Drawings



Project: 01251-100
CRUDE OIL TANK FARM PROJECT (AGROOD AREA)



System ID	030-LP-005
System Description	Tank-1 Fire Protection System

8.03- Equipment Datasheets

System ID	030-LP-005
System Description	Tank-1 Fire Protection System

8.04- Boxing-up Certificates

System ID	030-LP-005
System Description	Tank-1 Fire Protection System

8.05- Grouting Certificates



Project: 01251-100
CRUDE OIL TANK FARM PROJECT (AGROOD AREA)



System ID	030-LP-005
System Description	Tank-1 Fire Protection System

8.06- Pre-Alignment Certificates

System ID	030-LP-005
System Description	Tank-1 Fire Protection System

8.07- Mechanical Pre-Commissioning Checklists

System ID	030-LP-005
System Description	Tank-1 Fire Protection System

9- Mechanical Commissioning



Project: 01251-100
CRUDE OIL TANK FARM PROJECT (AGROOD AREA)



System ID	030-LP-005
System Description	Tank-1 Fire Protection System

9.01- Final Alignment Certificates



Project: 01251-100
CRUDE OIL TANK FARM PROJECT (AGROOD AREA)



System ID	030-LP-005
System Description	Tank-1 Fire Protection System

9.02- Motor Solo Run Certificates

System ID	030-LP-005
System Description	Tank-1 Fire Protection System

9.03- Mechanical Run Test (MRT) Certificates

System ID	030-LP-005
System Description	Tank-1 Fire Protection System

9.04- Mechanical Commissioning Checklists

System ID	030-LP-005
System Description	Tank-1 Fire Protection System

9.05- Mechanical Supplier Check Lists & Reports

System ID	030-LP-005
System Description	Tank-1 Fire Protection System

10- Instrumentation Pre-Commissioning

System ID	030-LP-005
System Description	Tank-1 Fire Protection System

10.01- System Instrument Index



Project: 01251-100
CRUDE OIL TANK FARM PROJECT (AGROOD AREA)



System ID	030-LP-005
System Description	Tank-1 Fire Protection System

10.02- Instrument Data Sheets

System ID	030-LP-005
System Description	Tank-1 Fire Protection System

10.03- Instrument Cable Schedule

System ID	030-LP-005
System Description	Tank-1 Fire Protection System

10.04- System Instrumentation Wiring Diagram

System ID	030-LP-005
System Description	Tank-1 Fire Protection System

10.05- Hook-up Drawing (Mechanical & Pneumatic)

System ID	030-LP-005
System Description	Tank-1 Fire Protection System

10.06- Instruments Cables Schedule

System ID	030-LP-005
System Description	Tank-1 Fire Protection System

10.07- Instruments Cables Laying Certificates



Project: 01251-100
CRUDE OIL TANK FARM PROJECT (AGROOD AREA)



System ID	030-LP-005
System Description	Tank-1 Fire Protection System

10.08- Instruments Cables Termination Certificates

System ID	030-LP-005
System Description	Tank-1 Fire Protection System

10.09- Instruments Cables Testing Certificates

System ID	030-LP-005
System Description	Tank-1 Fire Protection System

10.10- Instruments Calibration Certificates



Project: 01251-100
CRUDE OIL TANK FARM PROJECT (AGROOD AREA)



System ID	030-LP-005
System Description	Tank-1 Fire Protection System

10.11- Instrument Loop Checks Certificates



Project: 01251-100
CRUDE OIL TANK FARM PROJECT (AGROOD AREA)



System ID	030-LP-005
System Description	Tank-1 Fire Protection System

10.12- Instrumentation Pre-Commissioning Check Lists

PRE-COMMISSIONING CHECK LIST DETECTOR LP-13 A

PROJECT TITLE : EGPC CRUDE OIL TANK FARMS PROJECT , AGROOD AREA 030 (MODULE 01)

PROJECT NUMBER : 1251-100

DISCIPLINE : Loss Prevention

SYSTEM NAME : Tank-1 Fire Protection System

SYSTEM ID : 030-LP-005

SUB-SYSTEM NAME : Tank-1 Fire Protection System

SUB-SYSTEM ID : 030-LP-005

ITEM TAG No. : 030-GD-001

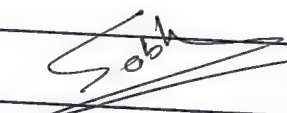

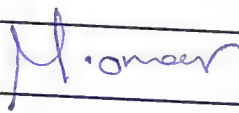
AREA : 30

REF. DWGs/DOCs :

No.	DESCRIPTION	RESULT	PL
		OK/NA/PL	ITEM No.
1	FIRE AND GAS DETECTOR:		
1.1	Detector placed in the correct location as per the distribution drawings.	✓	
1.2	Detector placed in the correct elevation as per the distribution drawings.	✓	
1.3	Detector mounted in the correct orientation as per common engineering practice.	✓	
1.4	Outlet tags are according to the drawing & correctly placed.	✓	
1.5	Detector is in good condition and has no physical/mechanical damage.	✓	
1.6	Detector is properly fixed.	✓	
1.7	Detector type and model number are as mentioned in the drawings/purchase order.	✓	
1.8	Check accessibility for maintenance.	✓	
1.9	Check that there are no missing parts.	✓	
1.10	Check/perform Pre-comm. check lists for all cables connected/wired to the outlet.	✓	

REMARKS AND OBSERVATIONS :

OK: NO OBJECTION, NA: NOT APPLICABLE, PL: PUNCH LIST.

COMPANY	CONST. CONTRACTOR	ENPPI	CUSTOMER
NAME			
SIGNATURE			
DATE			

PRE-COMMISSIONING CHECK LIST DETECTOR LP-13 A

PROJECT TITLE : EGPC CRUDE OIL TANK FARMS PROJECT , AGROOD AREA 030 (MODULE 01)

PROJECT NUMBER : 1251-100

DISCIPLINE : Loss Prevention

SYSTEM NAME : Tank-1 Fire Protection System

SYSTEM ID : 030-LP-005

SUB-SYSTEM NAME : Tank-1 Fire Protection System

SUB-SYSTEM ID : 030-LP-005

ITEM TAG No. : 030-FD-001


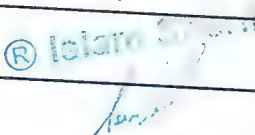

AREA : 30

REF. DWGs/DOCs :

No.	DESCRIPTION	RESULT	PL
		OK/NA/PL	ITEM No.
1	FIRE AND GAS DETECTOR:		
1.1	Detector placed in the correct location as per the distribution drawings.	✓	
1.2	Detector placed in the correct elevation as per the distribution drawings.	✓	
1.3	Detector mounted in the correct orientation as per common engineering practice.	✓	
1.4	Outlet tags are according to the drawing & correctly placed.	✓	
1.5	Detector is in good condition and has no physical/mechanical damage.	✓	
1.6	Detector is properly fixed.	✓	
1.7	Detector type and model number are as mentioned in the drawings/purchase order.	✓	
1.8	Check accessibility for maintenance.	✓	
1.9	Check that there are no missing parts.	✓	
1.10	Check/perform Pre-comm. check lists for all cables connected/wired to the outlet.	✓	

REMARKS AND OBSERVATIONS :

OK: NO OBJECTION, NA: NOT APPLICABLE, PL: PUNCH LIST.

COMPANY	CONST. CONTRACTOR	ENPPI	CUSTOMER
NAME			
SIGNATURE			
DATE			

PRE-COMMISSIONING CHECK LIST DETECTOR LP-13 A

PROJECT TITLE : EGPC CRUDE OIL TANK FARMS PROJECT , AGROOD AREA 030 (MODULE 01)

PROJECT NUMBER : 1251-100

SYSTEM NAME : Tank-1 Fire Protection System

SUB-SYSTEM NAME : Tank-1 Fire Protection System

ITEM TAG No. : 030-LHD-001

REF. DWGs/DOCs :

DISCIPLINE : Loss Prevention

SYSTEM ID : 030-LP-005

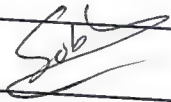
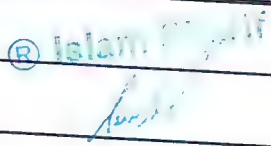
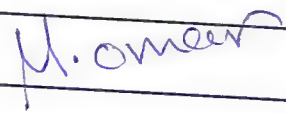
SUB-SYSTEM ID : 030-LP-005

AREA : 30

No.	DESCRIPTION	RESULT	PL
		OK/NA/PL	ITEM No.
1	FIRE AND GAS DETECTOR:		
1.1	Detector placed in the correct location as per the distribution drawings.	✓	
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1.7	Detector type and model number are as mentioned in the drawings/purchase order.	✓	
1.8	Check accessibility for maintenance.	✓	
1.9	Check that there are no missing parts.	✓	
1.10	Check/perform Pre-comm. check lists for all cables connected/wired to the outlet.	✓	

REMARKS AND OBSERVATIONS :

OK: NO OBJECTION, NA: NOT APPLICABLE, PL: PUNCH LIST.

COMPANY	CONST. CONTRACTOR	ENPPI	CUSTOMER
NAME			
SIGNATURE			
DATE			

PRE-COMMISSIONING CHECK LIST DETECTOR LP-13 A

PROJECT TITLE : EGPC CRUDE OIL TANK FARMS PROJECT , AGROOD AREA 030 (MODULE 01)

PROJECT NUMBER : 1251-100

DISCIPLINE : Loss Prevention

SYSTEM NAME : Tank-1 Fire Protection System

SYSTEM ID : 030-LP-005

SUB-SYSTEM NAME : Tank-1 Fire Protection System

SUB-SYSTEM ID : 030-LP-005

ITEM TAG No. : 030-LHD-002

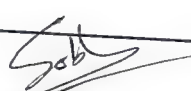
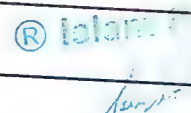
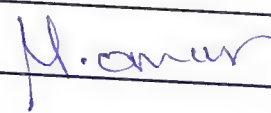
AREA : 30

REF. DWGs/DOCs :

No.	DESCRIPTION	RESULT	PL
		OK/NA/PL	ITEM No.
1	FIRE AND GAS DETECTOR:		
1.1	Detector placed in the correct location as per the distribution drawings.	✓	
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1.7	Detector type and model number are as mentioned in the drawings/purchase order.	✓	
1.8	Check accessibility for maintenance.	✓	
1.9	Check that there are no missing parts.	✓	
1.10	Check/perform Pre-comm. check lists for all cables connected/wired to the outlet.	✓	

REMARKS AND OBSERVATIONS :

OK: NO OBJECTION, NA: NOT APPLICABLE, PL: PUNCH LIST.

COMPANY	CONST. CONTRACTOR	ENPPI	CUSTOMER
NAME			
SIGNATURE			
DATE			

System ID	030-LP-005
System Description	Tank-1 Fire Protection System

10.13- Instrumentation Supplier Check Lists & Reports



Project: 01251-100
CRUDE OIL TANK FARM PROJECT (AGROOD AREA)



System ID	030-LP-005
System Description	Tank-1 Fire Protection System

11- Instrumentation Commissioning

System ID	030-LP-005
System Description	Tank-1 Fire Protection System

11.01) Instrumentation Function Test Certificates

MINUTES OF MEETING	PROJECT TITLE : EGPC Crude Oil Tank Farms Project (AGROOD 30) (Module 01)	
	PROJECT No : 1251-100	DATE : 5-9-2021
	CUSTOMER : EGPC (PPC)	
	LOCATION : Agrood, Suez, EGYPT	
WRITTEN BY : Ahmed El Shafie		MEETING DATE : 5-9-2021
MEETING No : [MEETING No]		DEPARTMENT : Commissioning & Startup
FILE No :		
PURPOSE OF MEETING:		
<p style="text-align: center;">Fire & Gas Cause & Effect Verification Finalization for Agrood Area 30 (Module-01)</p>		
ATTENDEES:		
ENPPI	PETROJET	PPC
<i>Ali Ashraf</i>	<i>Sathyaseelan</i>	<i>M. Omar</i>
DISTRIBUTION:		

MINUTES OF MEETING (Cont'd)

PROJECT No: 1251-100

MEETING No: [MEETING No]

MEETING DATE: 5-9-2021

ITEM No	DESCRIPTION OF DISCUSSION	ACTION BY	DATE
	<ul style="list-style-type: none"> This close-out meeting was held between ENPPI, PETROJET and PPC to certify the completion of Fire and gas cause-and-effect verification for Agrood area 30 entirely. Fire and gas cause-and-effect verification have been tested, witnessed, and approved by PPC. Signing off this MOM does not relieve any contractor from their contractual obligations. <p>Exceptions:</p> <ul style="list-style-type: none"> * GD-013 shall be fixed (cleared) Sobhy * 2 smoke detectors in battery rooms. * 4 Gas detectors ZAM modules. 		
	<p>Enppi petrojet PPC Ali Ashraf Sobhydeen M. Omar</p>		

- NOTES**
- (1) THIS C&E TO BE READ IN CONJUNCTION WITH FIRE AND GAS DETECTION SYSTEM LAYOUT
DOC. No 01251-100-070-AFD-002
- (2) DEVICES FAULT SHALL INITIATE AN ANNUNCIATION COMMON FAULT ALARM ON WORK STATION.
- (3) 100N = ANY SINGLE ALARM INPUT SHALL CAUSE A LOGICAL INPUT.
200N = AT LEAST TWO ALARM INPUTS ARE REQUIRED TO CAUSE A LOGICAL INPUT, WHERE "N" IS THE NUMBER OF RELEVANT INPUTS PRESENT.
- (4) DETECTORS FAILURE SHALL BE CONSIDERED AS ACTIVATED DETECTOR IN THE VOTING LOGIC.
- (5) ALL TROUBLE SIGNALS FOR DEVICE WHICH HAVE MONITORING FUNCTION AS PER I/O LIST SHALL BE INDICATED ON HMI.
- (6) ALL SIGNALS SHALL BE LINE MONITORED AND ANY FAULT (O.C./C.S) SHALL BE INDICATED ON THE HMI

LEGEND

X : OCCURRENCE OF EFFECT AS A RESULT OF CAUSE

I: INHIBIT

N: NOT INHIBIT

T: TIME DELAY (30 SEC)

OPERATING CAUSES				OPERATING TYPE		EFFECT		HMI					
LOCATION	CAUSE DEVICE IDENTIFICATION	DESCRIPTION	VOTING	SHUTDOWN OR CONTROL DEVICE	Notes	Ref		ALARM ON WORK STATION GRAPHICS	GENERAL ALARM				
									031-HR-001	031-STR-001	031-HR-001	031-STB-001	031-SV-001
PUMP STATION AREA	✓ 031-MCP-001	MANUAL CALL POINT	100N					X	X	X			
	✓ 031-FD-003 010	3IR FLAME DETECTOR	1008					X	X	X			
	✓ 031-GD-005 012		2008					X	X				
			GAS DETECTION 20% LEL	1008					X		X	X	
			GAS DETECTION 50% LEL	1008					X				
			CONFIRMED GAS DETECTION 20% & 20% LEL	2008					X		X	X	
	✓ 031-FSH-005	PRESSURE SWITCH HIGH OF WATER SPRAY SYSTEM ON CRUDE PUMPS	FAULT					X					
			1001					X	X				
DRAIN SUMP	✓ 031-FD-011	3IR FLAME DETECTOR	1001					X	X	X			
	✓ 031-GD-013		FAULT					X					
			GAS DETECTION 20% LEL	1001					X				
			GAS DETECTION 50% LEL	1001	(7)				X		X	X	
MANIFOLD SUMP	✓ 031-GD-003/4		FAULT					X					
			GAS DETECTION 20% LEL	1002					X	X			
			GAS DETECTION 50% LEL	1002	(7)				X		X	X	
			CONFIRMED GAS DETECTION 20% & 20% LEL	2002	(7)				X		X	X	
FACP	031-XA-001	FIRE ALARM FROM FACP	FAULT					X					
	031-XA-002	CONFIRMED FIRE ALARM FROM FACP						X					
	031-XA-003	COMMON GAS ALARM FROM FACP						X					
	031-XA-004	CONFIRMED GAS ALARM FROM FACP						X					
	031-XA-005	COMMON EXTINGUISHING FROM FACP						X					
	031-XA-006	COMMON FAULT FROM FACP						X					

System ID	030-LP-005
System Description	Tank-1 Fire Protection System

11.02- Instrumentation Supplier Check Lists & Reports

System ID	030-LP-005
System Description	Tank-1 Fire Protection System

12- Electrical Pre-Commissioning

System ID	030-LP-005
System Description	Tank-1 Fire Protection System

12.01- System Electrical Index

030-LP-005 Tank-1 Fire Protection System
030-LP-005 Tank-1 Fire Protection System
030-LP-005 Tank-1 Fire Protection System
030-LP-005 Tank-1 Fire Protection System
030-LP-005 Tank-1 Fire Protection System
030-LP-005 Tank-1 Fire Protection System
030-LP-005 Tank-1 Fire Protection System
030-LP-005 Tank-1 Fire Protection System

Loss Prevention
Loss Prevention
Loss Prevention
Loss Prevention
Loss Prevention
Loss Prevention
Loss Prevention
Loss Prevention

030-PSH-002
030-GD-001
030-LHD-001
030-LHD-002
030-FD-001
030-PSH-001A
030-PSH-001B
030-PSH-001C
030-PSH-001D

Tag Description
Pressure Switch High
Combustible Gas Detector
Electrical Linear Heat Detector
Electrical Linear Heat Detector
Flame Detector (Triple Infrared)
Pressure Switch High
Pressure Switch High
Pressure Switch High
Pressure Switch High

Form Type
Checklist
Checklist
Checklist
Checklist
Checklist
Checklist
Checklist
Checklist

Check Forms ID
LP-10 A
LP-13 A
LP-13 A
LP-13 A
LP-13 A
LP-13 A
LP-10 A
LP-10 A
LP-10 A

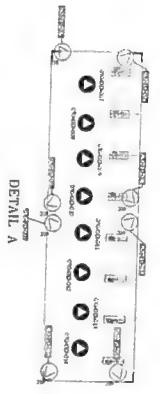
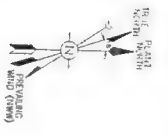


Project: 01251-100
CRUDE OIL TANK FARM PROJECT (AGROOD AREA)

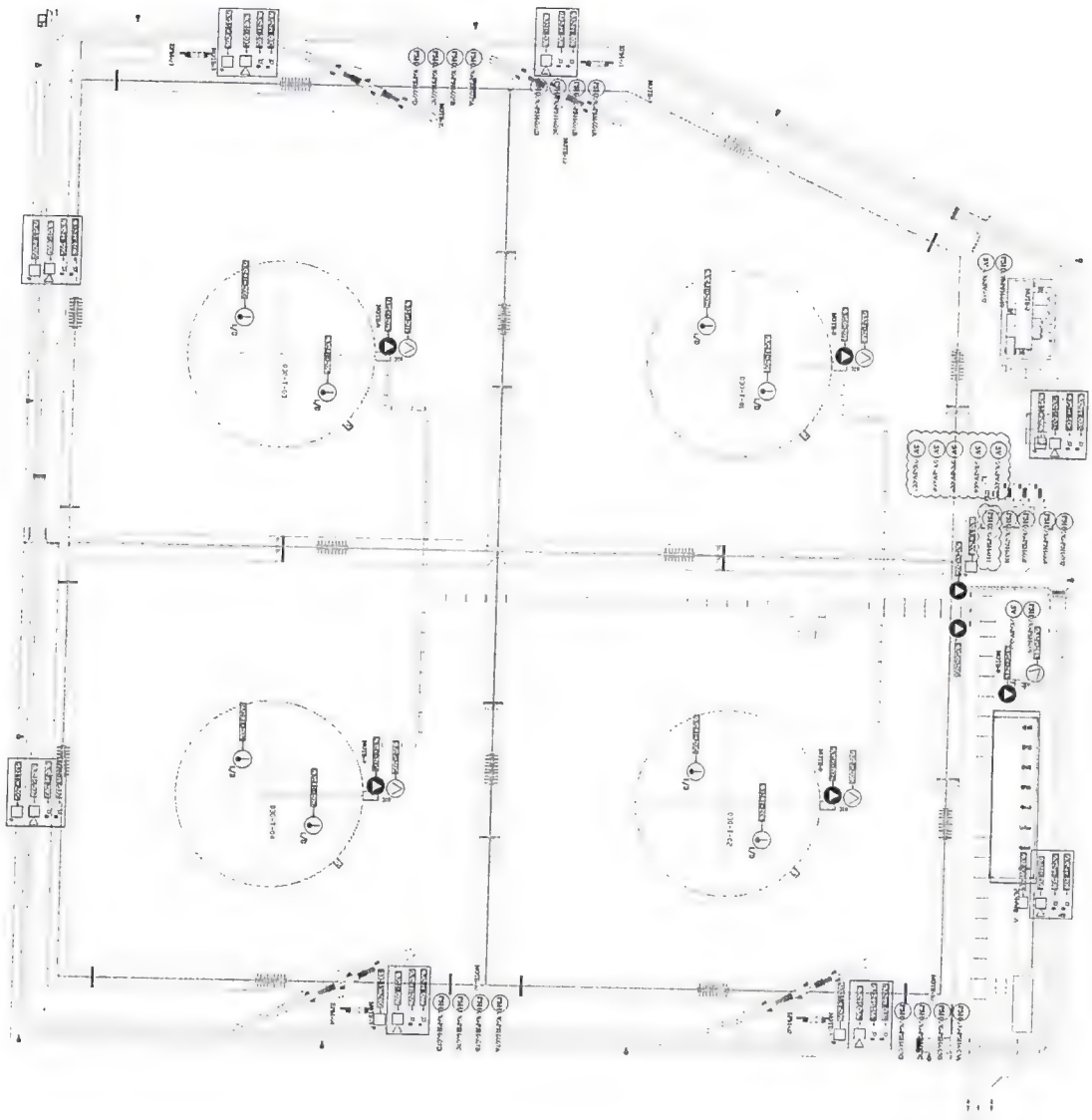


System ID	030-LP-005
System Description	Tank-1 Fire Protection System

12.02- Electrical Drawings



DETAIL A



REFERENCE NUMBER	DESCRIPTION
1	1. FIRE AND GAS SYSTEM IS DESIGNED AS PER NFPA-72 AND PROJECT DESIGN BASIS
2	2. FIRE BUILDING FIRE DETECTOR SYSTEM IS BUILDING FIRE DETECTOR SYSTEM
3	3. FIRE DETECTOR SYSTEM SHALL BE DESIGNED FOR WIRE MESH, VIA WIRE MESH DETECTOR SYSTEM
4	4. FIRE DETECTOR SYSTEM SHALL BE DESIGNED FOR WIRE MESH, VIA WIRE MESH DETECTOR SYSTEM
5	5. FIRE DETECTOR SYSTEM SHALL BE DESIGNED FOR WIRE MESH, VIA WIRE MESH DETECTOR SYSTEM
6	6. FIRE DETECTOR SYSTEM SHALL BE DESIGNED FOR WIRE MESH, VIA WIRE MESH DETECTOR SYSTEM
7	7. FIRE DETECTOR SYSTEM SHALL BE DESIGNED FOR WIRE MESH, VIA WIRE MESH DETECTOR SYSTEM
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10	10. FIRE DETECTOR SYSTEM SHALL BE DESIGNED FOR WIRE MESH, VIA WIRE MESH DETECTOR SYSTEM

SYMBOL	DESCRIPTION
1	1. FIRE AND GAS SYSTEM IS DESIGNED AS PER NFPA-72 AND PROJECT DESIGN BASIS
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NO.	REVISION	DATE	BY	CHKD.	APP'D.
1	1. FIRE AND GAS SYSTEM IS DESIGNED AS PER NFPA-72 AND PROJECT DESIGN BASIS				
2	2. FIRE BUILDING FIRE DETECTOR SYSTEM IS BUILDING FIRE DETECTOR SYSTEM				
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10	10. FIRE DETECTOR SYSTEM SHALL BE DESIGNED FOR WIRE MESH, VIA WIRE MESH DETECTOR SYSTEM				

EGPC

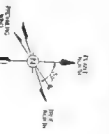
EGPC CRUDE OIL TANK FARM

AGROOD AREA (MORRIS)

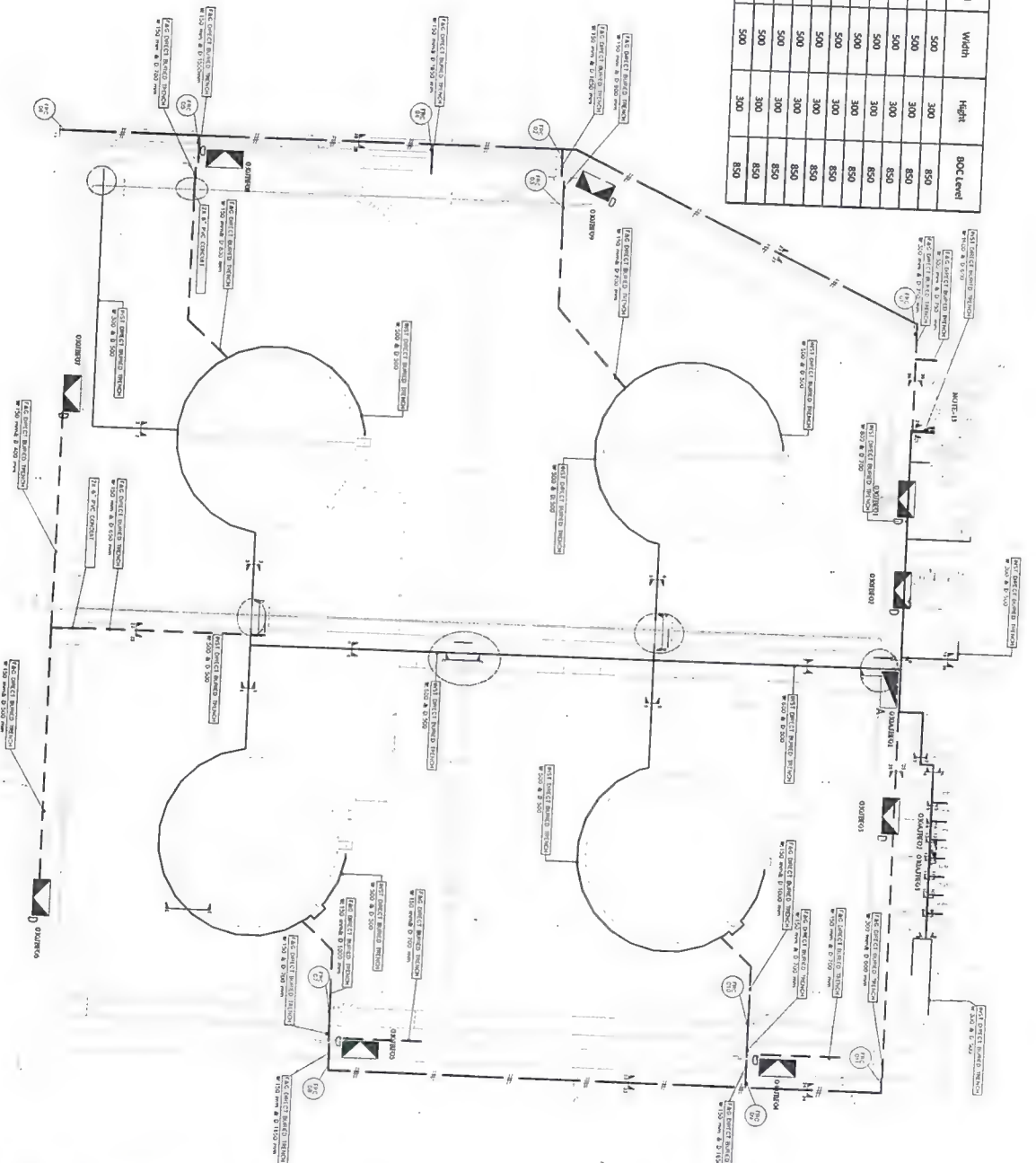
FIRE AND GAS DETECTION LAYOUT

Enppi

01251-10-030-475-002 01/01/1



Area No.	REC No.	No. of layers	No. sleeves per layer	Length (m)	Width	Height	BOC Level
000	FRC 01	1	2	8	500	300	850
	FRC 02	1	2	8	500	300	850
	FRC 03	1	2	23	500	300	850
	FRC 04	1	2	8	500	300	850
	FRC 05	1	2	8	500	300	850
	FRC 06	1	2	10	500	300	850
	FRC 07	1	2	23	500	300	850
	FRC 08	1	2	8	500	300	850
	FRC 09	1	2	8	500	300	850
	FRC 10	1	2	23	500	300	850
	FRC 11	1	2	8	500	300	850



NOTES

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS SHOWN OTHERWISE.
2. THE CABLE TRAY INSTALLATION WORK SHALL BE IN ACCORDANCE WITH THE FOLLOWING STANDARDS AND SPECIFICATIONS:
 - 3. ALL NON-CORROSION CLADDING MATERIALS SHALL BE FIRE RESISTANT AND MEET THE REQUIREMENTS OF THE relevant standards.
 - 4. THE CABLE TRAY SHALL BE IN ACCORDANCE WITH THE LATEST VERSION OF THE relevant standards.
 - 5. THE CABLE TRAY SHALL BE IN ACCORDANCE WITH THE LATEST VERSION OF THE relevant standards.
 - 6. THE CABLE TRAY SHALL BE IN ACCORDANCE WITH THE LATEST VERSION OF THE relevant standards.
 - 7. THE CABLE TRAY SHALL BE IN ACCORDANCE WITH THE LATEST VERSION OF THE relevant standards.
 - 8. THE CABLE TRAY SHALL BE IN ACCORDANCE WITH THE LATEST VERSION OF THE relevant standards.
 - 9. THE CABLE TRAY SHALL BE IN ACCORDANCE WITH THE LATEST VERSION OF THE relevant standards.
 - 10. THE CABLE TRAY SHALL BE IN ACCORDANCE WITH THE LATEST VERSION OF THE relevant standards.
 - 11. THE CABLE TRAY SHALL BE IN ACCORDANCE WITH THE LATEST VERSION OF THE relevant standards.
 - 12. THE CABLE TRAY SHALL BE IN ACCORDANCE WITH THE LATEST VERSION OF THE relevant standards.
 - 13. THE CABLE TRAY SHALL BE IN ACCORDANCE WITH THE LATEST VERSION OF THE relevant standards.
 - 14. THE CABLE TRAY SHALL BE IN ACCORDANCE WITH THE LATEST VERSION OF THE relevant standards.
 - 15. THE CABLE TRAY SHALL BE IN ACCORDANCE WITH THE LATEST VERSION OF THE relevant standards.

LEGEND

- 1. FIRE RATED CABLE TRAY
- 2. CABLE TRAY JUNCTION BOX
- 3. CABLE TRAY END BOX
- 4. CABLE TRAY BEND
- 5. CABLE TRAY BRACKET
- 6. CABLE TRAY HANGER
- 7. CABLE TRAY SUPPORT
- 8. CABLE TRAY CLAMP
- 9. CABLE TRAY FASTENER
- 10. CABLE TRAY GROUNDING
- 11. CABLE TRAY IDENTIFICATION
- 12. CABLE TRAY LABELING
- 13. CABLE TRAY MARKING
- 14. CABLE TRAY MEASUREMENT
- 15. CABLE TRAY INSPECTION

KEY PLAN



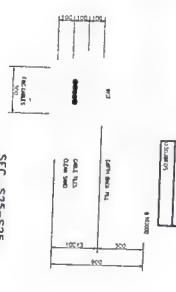
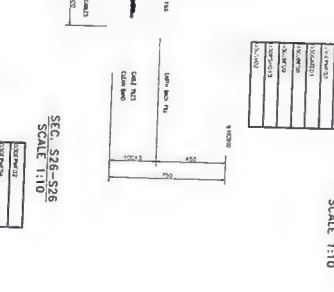
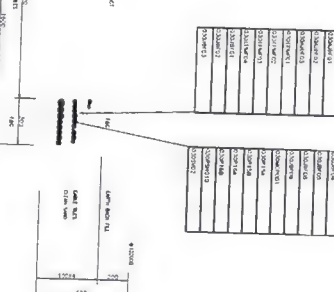
EGPC

EGPC CAUSE OIL TANK FARM
FIRE AND GAS HAZARD ZONING LAYOUT
AGROOD AREA (MODULE-1)

EGPC

EGPC

EGPC



	
SPECIALTY AND INDUSTRIAL AND PETROLEUM OILS GREASES, LUBRICANTS, FLUIDS	
01251-100-030-AXD-001	03/03 1

(110 FIELD OF VIEW)

MOUNTING BASE FOOTPRINT



2-Flame Detector (FS24X)



Put

4-2011A Source

DATE	DESCRIPTION	AMOUNT	BALANCE
1/1/20	OPENING BALANCE		100.00
1/15/20	PAYROLL	50.00	150.00
1/30/20	RENT	20.00	130.00
2/15/20	PAYROLL	50.00	180.00
2/28/20	RENT	20.00	160.00
3/15/20	PAYROLL	50.00	210.00
3/31/20	RENT	20.00	190.00
4/15/20	PAYROLL	50.00	240.00
4/30/20	RENT	20.00	220.00
5/15/20	PAYROLL	50.00	270.00
5/31/20	RENT	20.00	250.00
6/15/20	PAYROLL	50.00	300.00
6/30/20	RENT	20.00	280.00
7/15/20	PAYROLL	50.00	330.00
7/31/20	RENT	20.00	310.00
8/15/20	PAYROLL	50.00	360.00
8/31/20	RENT	20.00	340.00
9/15/20	PAYROLL	50.00	390.00
9/30/20	RENT	20.00	370.00
10/15/20	PAYROLL	50.00	420.00
10/31/20	RENT	20.00	400.00
11/15/20	PAYROLL	50.00	450.00
11/30/20	RENT	20.00	430.00
12/15/20	PAYROLL	50.00	480.00
12/31/20	RENT	20.00	460.00
1/1/21	OPENING BALANCE		460.00

ABB TURBOCHARGERS SALE

ENPPI PROJECT NUMBER 4176-503

DECEMBER

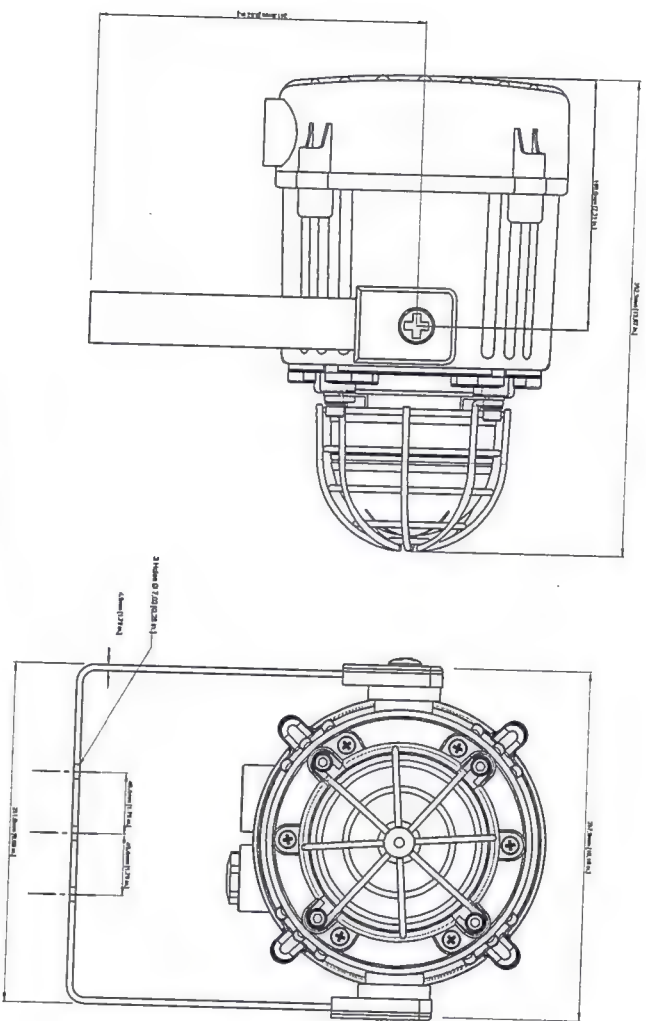
Email: sales@zbsprotech.com

Project Name: EGPC CRUDE OIL TANK FARM	NONE
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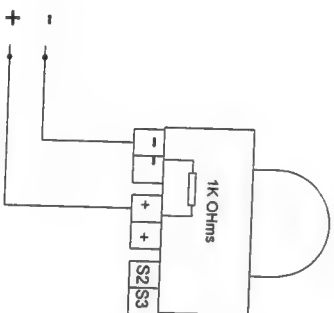
HOOK UP DETAILS

SBS-JOB503-DC18-118-011	01/10	BO
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E2xBL2 Multi-function LED Beacon




Electrical DC wiring



REV	DATE	DESCRIPTION	ISSUED	REVISED	APPROVED	S.A.
1	2018	ISSUED FOR APPROVAL				

ABB TURBOCHARGERS S.A.E



Enppi

 ENGINEERING FOR THE PETROLEUM AND PROCESS INDUSTRIES

 ENPPI PROJECT NUMBER 4176-503

 SBS

 5353 West Alsbome St Suite 200 Houston, Texas, USA

 Tel: +1 (1) 832-698-1111 Fax: +1 (1) 281-381-0282

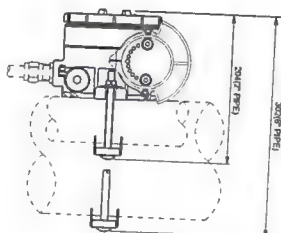
 Email: enppi@enppi.com

Project Name: EGPC CRUDE OIL TANK FARM

DRAWING TITLE

INSTRUMENT TERMINATION AND
HOOK UP DETAILS

SCALE	DRAWING NUMBER	SHEET NUMBER	REVISION
NONE	SBS-JOB503-DC18-118-011	01/10	RO

WALL MOUNT HEAD MOUNTING
CALL BOY IS NOT SUPPLY LTD

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Enppi
إمبي

ENPPI PROJECT NUMBER 4176-503

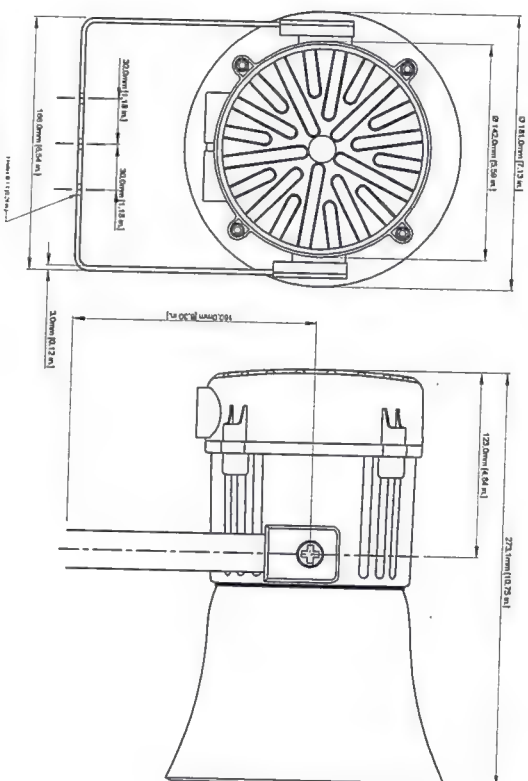
535 720-1500
5335 West Alabama St Suite 200 El Paso, Texas, USA
Tel: + (1) 852-698-4424 Fax: + (1) 281-581-0282
Email: sales@3aprotech.com

Project Name: EGPC CRUDE OIL TANK FARM

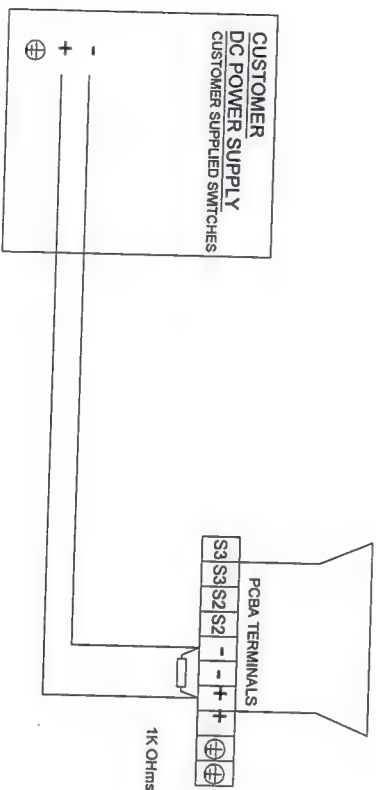
INSTRUMENT TERMINATION AND HOOK UP DETAILS

DATE	DRAWING NUMBER	SHEET NUMBER	REVISION
NONE	SBS-JOB503-DC18-118-011	01/10	R0

E2XS1F Alarm sounder horn



ELECTRICAL DC WIRING



REV	DATE	DESCRIPTION	BY	CHK	LC
1	11/10	ISSUED FOR APPROVAL			
2	11/10	ISSUED FOR APPROVAL			
3	11/10	ISSUED FOR APPROVAL			
4	11/10	ISSUED FOR APPROVAL			
5	11/10	ISSUED FOR APPROVAL			
6	11/10	ISSUED FOR APPROVAL			
7	11/10	ISSUED FOR APPROVAL			
8	11/10	ISSUED FOR APPROVAL			
9	11/10	ISSUED FOR APPROVAL			
10	11/10	ISSUED FOR APPROVAL			

ABB TURBOCHARGERS S.A.E.

ENGINEERING FOR THE PETROLEUM AND PROCESS INDUSTRIES
ENRPI PROJECT NUMBER 4176-503

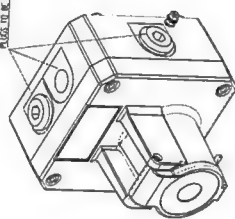
5553 West Ardmore St. Suite 200 E. Houston, Texas, USA
Tel: (+1) 832-888-9424 Fax: (+1) 281-581-0282
Email: sales@abbpetrotech.com

Project Name: EGPC CRUDE OIL TANK FARM

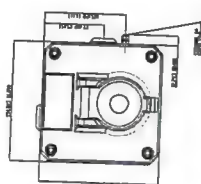
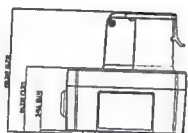
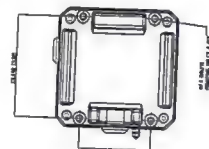
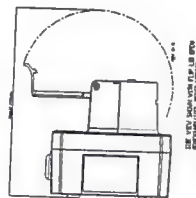
INSTRUMENT TERMINATION AND
HOOK UP DETAILS

DRAWING TITLE
SBS
SHEET NUMBER
01/10
REVISION
R0

2 OFF APPROVED EX d APPROVED
CABLE GLAND OR STOPPING
PLUGS TO BE USED IN EACH ENTRY



03070 617 477 HUIA MAOIS ABA BSA



ELECTRICAL WIRING
Optional Single or Double Microswitch
Circuit shown wit Unit un-operated : GNECP7 UL38 PCB
Version M/S 1 M/S 2

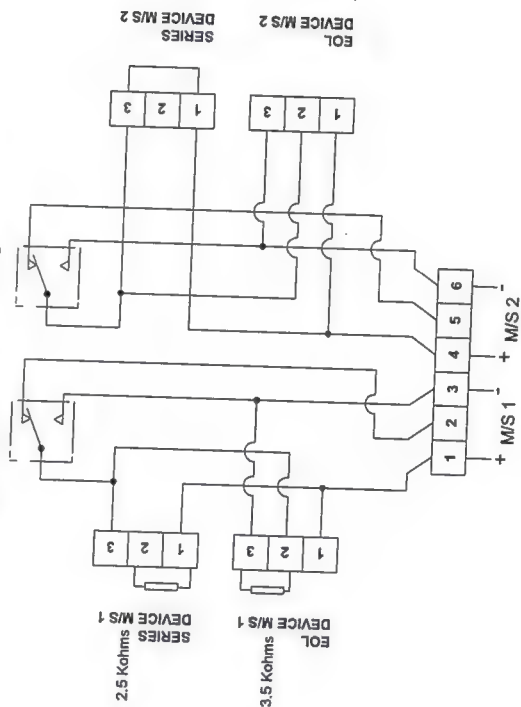
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ENGINEERING FOR THE PETROLEUM AND PROCESS INDUSTRIES
ENPPI PROJECT NUMBER 4176-503
الدرسة الهندسية لاصناف البترول والكيماويات



5553 West Alabama St Suite 200 E Houston, Texas, USA
 Zip Code 77056
 Tel: + (1) 832-698-9424 Fax: + (1) 281-581-0282
 Email: acslas@bsprotech.com

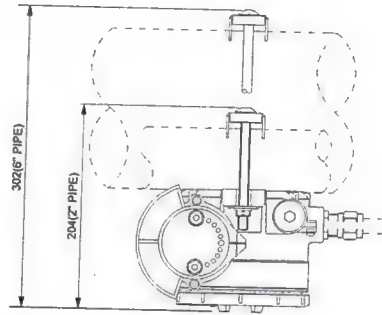
Project Name: EGPC CRUDE OIL TANK FARM

DRAWING TITLE

INSTRUMENT TERMINATION AND HOOK UP DETAILS

SCALE NONE	DRAWING NUMBER SBS-JOB503-DC18-118-011	SHEET NUMBER 01/10	REVISION R0
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**SIDE VIEW (OPTIONAL 2" &
6" PIPE MOUNTING)**



- 1) DEVICE SHALL BE INSTALLED TO A POLE WITH 2" DIAMETER.
- 2) ELEVATION OF DEVICE SHALL BE AS PER SITE CONDITIONS TO FIT THE DEVICE IN FRONT OF AND AT THE CENTER OF FRESH AIR INTAKE WITH A DISTANCE OF 30 TO 40 CM AWAY FROM IT.
- 3) A DEVICE SHALL BE INSTALLED AS PER NOTE 2 FOR EACH HVAC UNIT.
- 4) MODULE SHALL BE INSTALLED INDOOR TO THE WALL BEHIND THE DEVICE.

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Enppi
ENGINEERING FOR THE PETROLEUM AND PROCESS INDUSTRIES
ENPPI PROJECT NUMBER 4176-503

Project Name: EGPC CRUDE OIL TANK FARM

DRAFTING TITLE

INSTRUMENT TERMINATION AND HOOK UP DETAILS

SCALE	DRAWING NUMBER
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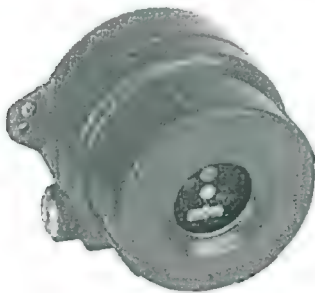
REVIS.DN

FS24X Detector

FS24X is a quantum leap in flame and fire detection with its sophisticated software and detection technology.

The FS24X is the latest generation high technology Multi-Spectrum Triple IR (IR/IR/IR/Visible) Fire and Flame Detector, which is part of our FSX family of advanced technology Electro-Optical fire detectors. Using our patented WideBand IR[™], WideBand 4.3 micron IR[™], and Visible detection technology, the FS24X is a quantum leap in flame and fire detection. Sophisticated software algorithms and dual microprocessors ensure that the FS24X has the highest fire detection performance combined with optimal false alarm rejection.

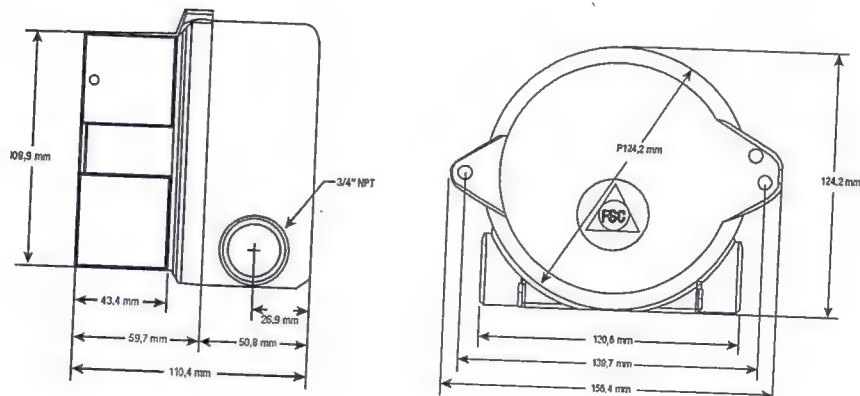
The WideBand IR[™] Infrared technology using high-speed solid-state Quantum sensors allows detection of all types of fires, hydrocarbon and non-hydrocarbon, in all weather conditions. If the detector's signal is blocked by ordinary window glass, the patented WideBand IR sensors will still alarm to the fire albeit at a reduced sensitivity and slower response time.






Dual microprocessors provide a high level of fail-safe operation combined with fast and reliable performance. The master microprocessor performs high-speed digital sampling and signal-processing calculations, while the slave microprocessor handles various sensor data, performs communications, self-diagnostics and provides interface versatility and additional memory for storing Event Log and FirePic[™] data.

The FSX family of detectors feature our patented FirePic data storage and information retrieval facility. FirePic[™] records pre-fire data, which can be recovered from the Detector's non-volatile flash memory for post fire analysis and postulation of the fire cause. Additionally, unique Real-Time Graphing (RTG[™]) allows viewing of the data which the Detector actually sees. A combination of outputs makes the FS24X a truly versatile detector for today's demanding industrial requirements. The FS24X detector has a detection range greater than 60 m (200 feet) (Very High Sensitivity setting) for the detection of a 0.1 m² (one square-foot) Heptane reference fire and has a cone of vision far greater in volumetric coverage than any other Multi-Spectrum IR Detector. This means fewer Detectors can be used as compared to other manufacturers' Detectors.

GENERAL DIMENSIONS
Side and Back Views
(All Dimensions in mm)



General Specification

GENERAL SPECIFICATIONS	
FIELD OF VIEW	FS24X-9: 90° cone of vision, ± 45° from on axis FS24X-2: 110° cone of vision, ± 55° from on axis
SENSITIVITY	Very high (60m), high (45m), medium (30m) and low (15m) - switch selectable
RESPONSE TIME	3-5 Seconds to 0.1 m ² (1 sq. ft.) n-Heptane fire at 30 m (100 ft.) 3-10 Seconds to 0.1 m ² (1 sq. ft.) n-Heptane fire at 60 m (200 ft.)
SPECTRAL SENSITIVITY	Visible: 400 - 700 nanometres Near Band IR: 0.7 - 1.1 microns Wide Band IR: 1.1 - 3.0 microns Wide Band IR: 3.0 - 5.0 microns
OPERATING VOLTAGE	24 Vdc nominal (18-32 Vdc) - regulated
POWER CONSUMPTION	Operating: 56 mA @ 24 Vdc nominal Alarm: 106 mA @ 24 Vdc nominal Heater: 155 mA - additional Note: Heater will turn on at -17°C (0°F)
OUTPUT RELAYS	Fire Alarm: SPDT (NO / NC) - De-energised/energized, latching/non-latching Fault: SPST (NO) - De-energised, latching/non-latching Auxiliary: SPDT (NO / NC) - De-energised/energized, latching/non-latching Contacts rating: 1 amp @ 24 Vdc
ANALOG OUTPUT	0 - 20 mA stepped - source or sink user selectable
LOOP RESISTANCE	50 - 400 Ohms
COMMUNICATION	One of the following - user selectable: • RS-485, ModBus Protocol • RS-485, FireBus II • RS-485 Special (optional) • HART, Optional plug-in module (not available on EN54-10 units)
VISUAL INDICATORS	Green LED: Power Red LED: Alarm Yellow LED: Fault
TEMPERATURE RANGE	Operating: 110° Field of View FS24X: -40°C to +85°C (-40°F to +185°F); 90° Field of View FS24X: -60°C to +85°C (-76°F to +185°F) Storage: -55°C to +110°C (-67°F to +230°F)
HUMIDITY RANGE	5 to 98% relative humidity, non-condensing
VIBRATION	Meets or exceeds MilSpec 810C Method 514.2, Curve AW12
WIRING	2.5 mm ² (14 AWG) to 0.326 mm ² (22 AWG); shielded cable recommended
CONDUIT ENTRIES	Standard: Two M25 or two ¾" NPT
ENCLOSURE MATERIALS	Copper-free powder coated aluminum or 316 stainless steel
ENCLOSURE TYPE	4X, IP66 and NEMA 4
CERTIFICATIONS	FM: Class I, Div. 1 & 2, Groups B, C, & D; Class II, Div. 1 & 2, Groups E, F, & G; Class III ATEX/IECEx:  II 2 G Ex db IIC T4 (Ta: -60 to +110°C), T5 (Ta: -60 to +75°C), T6 (Ta: -60 to +60°C), II 2 D Ex tb IIIC T135°C (FS24X-9, 90° Field of View)  II 2 G Ex db IIC T4 (Ta: -40 to +110°C), T5 (Ta: -40 to +75°C), T6 (Ta: -40 to +60°C), II 2 D Ex tb IIIC T135°C (FS24X-9, 110° Field of View) CE Complies with EN6100-6-4 & EN50130-4 INMETRO CU-TR SIL Rating: FMEDA available on request EN54-10:  FS20X certified 1175a/01 (LPCB); CPR 0832-CPR-F0515
SHIPPING WEIGHT	Aluminum: 1.6 kg (3.6 lbs) Stainless Steel: 3.2 kg (7 lbs)
MOUNTING	Swivel bracket assembly - optional
WARRANTY	Three years from date of shipping

FEATURES

- Patented WideBand IR™ technology
- Patented Electronic Frequency Analysis™
- Visible sensor for optimum false alarm rejection
- Selectable detection sensitivities
- Field-of-View: 110° cone-of-vision (90° cone-of-vision model also available)
- Dual microprocessors for reliable performance
- Real-time clock for accurate time dating of events
- FirePic™ - pre-fire event data storage
- Event log with date and time stamp
- RS-485 ModBus communication
- Non-isolated 4-20 mA Analog output (sink or source)
- Alarm, Fault and Fire Verification relays
- Automatic optical path and electronic self-test
- Patented Electronics Module for components protection with easy plug-in terminations and field installation
- Two 25 mm or ¾" NPT conduit entries
- Low power consumption
- High RFI and EMI immunity
- FM, ATEX, CE mark approvals
- CU-TR approved
- INMETRO approved
- Meets SIL 2 requirements
- Certified to EN54-10:2002 (FS24X-9) option
- FM 3260 Performance

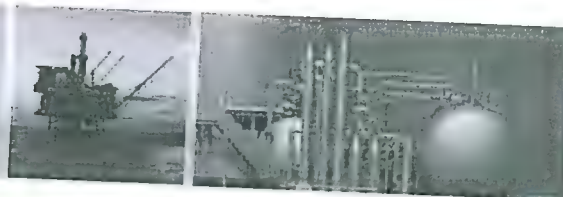
BENEFITS

- Detects hydrocarbon and non-hydrocarbon fuel fires in all environmental conditions
- User selectable outputs
- Wide operating temperature range
- Optimal false alarm rejection
- Minimal maintenance for trouble-free operation
- PC software and Interface Module (FSIM) for fault diagnostics, real-time graphics (RTGs), and downloading of FirePics™ and event log
- Suitable for a wide variety of applications
- Easy electronics module replacement
- Test lamps for manual testing

APPLICATIONS

- Refineries and oil production facilities
- Off-shore platforms
- Turbine/Compressor enclosures
- Oil and gas pipelines and pumping stations
- LNG/LPG loading and unloading facilities
- Natural gas and CNG plants
- Ethanol, Methanol, and IPA production and storage
- Crude oil and gasoline storage and tank farms
- Aircraft hangars
- Paint and solvent storage
- Chemical production, storage, and loading facilities
- Power plants

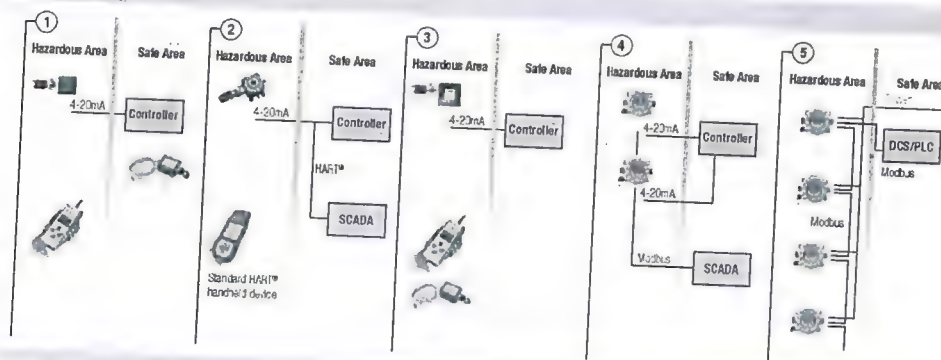
Technical Summary



Searchpoint Optima Plus Specification

Measuring Range	0-100% LEL, wide selection of Hydrocarbon gas and vapour calibrations. Different measuring ranges and solvent calibrations available for specialist applications	
Signal Output	4-20mA autosensing sink or source	
Inhibit	1-3mA (Default 2mA)	
Warning	0-6mA (Default 3mA *)	
Fault	0mA (HART® units adjustable to 1mA)	
Over Range	20-21.5mA (Default 21mA)	
Digital Output	Optional Multidrop Modbus RS485 (via XNX, Optional HART® over 4-20mA output (HART® version /)	
Material	316 stainless steel	
Weight	1.6kg	
Accuracy		
Optima Plus (Hydrocarbon)	Baseline < +1% FSD, 50% FSD < ±2% FSD	
Optima Plus (Ethylene)	Baseline < ±2% FSD, 50% FSD < ±3% FSD	
Repeatability	< ±2% FSD at 50% FSD	
Linearity	< 5% FSD	
Response Time	T50 < 3 seconds, T90 < 4 seconds (methane)	
Operational and Certified**	-40°C to +65°C temperature range **CU-TR-EX (Russia) Approval - XTC Version, Certified Temperature Range -60°C to +65°C	
Long Term Stability (as defined in EN 60079-29-1)	Baseline	Methane 100 %LEL Range: ≤ ± 2 %FSD Ethylene 100 %LEL Range: ≤ ± 4 %FSD
	50 %FSD	Methane 100 %LEL Range: ≤ ± 4 %FSD Ethylene 100 %LEL Range: ≤ ± 5 %FSD
Drift Over Temperature Range (-40 °C to 65 °C)	Baseline	≤ ± 2 %FSD
	50 %FSD	Methane 100 %LEL Range: ≤ ± 0.131 %FSD per °C Ethylene 100 %LEL Range: ≤ ± 0.078 %FSD per °C
Variation with Pressure	0.1% (of reading) per nitbar	
Power Supply	18-32Vdc (24Vdc nom), < 4.5W max	
Environmental Protection	IP 66 / 67	
Diagnostics (and Re-calibration)	Via certified Hand-held Interrogator, XNX or optional HART® communications	
Safety Approvals	ATEX: Baseefa13/ATEX0296X II 2 GD Ex d op is IIC Gb Ex Ib IIC Db T86°C (T _{amb} -40°C to +65°C) T86°C (T _{amb} -40°C to +55°C) IP 66/67 UL / CSA: Class 1, Div 1, groups B, C, and D (-40°C to +65°C) IECEX: II 2 GD Ex d op is IIC Gb Ex Ib IIC Db T86°C (T _{amb} -40°C to +55°C) or T96°C (T _{amb} -40°C to +65°C) IP66/67 CU-TR-EX (Russian Customs Union) - XTC Version IEx d op is IIC T5/T4 Gb X (T _{amb} -60°C to +65°C) EN 60079-29-1 (BVS 03 ATEX G 016 X), CSA C22.2 152, I M ANSI/ISA-12.13.01, Russian Pattern Approval (Metrology) - XTC Version ***	
Performance Approvals	IEC61508 Safety Integrity Level 2	
Functional Safety	EN 50270:2006 EN 50271:2010	
EMC Compliance	Marine Equipment Directive (MED), type approvals from DNV, BV, ABS, Lloyd's Register	
Software	* Note for ATEX compliance the warning value should not be set between 3 and 5mA	
Marine Approvals	*** Please refer to manual for full information	

Installation Options



Searchpoint Optima Plus SPECIFICATIONS



Searchpoint Optima Plus Specification

Use	Searchpoint Optima Plus is an advanced, Point-Infrared, flammable gas detector certified for use in potentially explosive atmospheres	
Measuring Range	0-100% LEL, wide selection of Hydrocarbon gas and vapor calibrations. Different measuring ranges and solvent calibrations available for specialist applications	
Signal Output	4-20mA autosensing sink or source	
Inhibit	1-3mA (Default 2mA)	
Warning	0-6mA (Default 3mA *)	
Fault	0mA (IART® units adjustable to 1mA)	
Over Range	20-21.5mA (Default 21mA)	
Digital Output	Optional Multidrop Modbus RS485 (via DX100(M)), Optional IART® over 4-20mA output (IART® version 7)	
Material	316 stainless steel	
Weight	1.6kg	
Accuracy		
Optima Plus (Hydrocarbon)	Baseline	$\leq \pm 1\%$ FSD, 50% FSD $\leq \pm 2\%$ FSD
Optima Plus (Ethylene)	Baseline	$\leq \pm 2\%$ FSD, 50% FSD $\leq \pm 3\%$ FSD
Repeatability	$< \pm 2\%$ FSD at 50% FSD	
Linearity	$< 5\%$ FSD	
Response Time	T50 < 3 seconds, T90 < 4 seconds (methane)	
Operational and Certified	-40°C to $+65^{\circ}\text{C}$ temperature range	
Long Term Stability (as defined in EN 60079-29-1)	Baseline	Methane 100 %LEL Range: $\leq \pm 2\%$ FSD Ethylene 100 %LEL Range: $\leq \pm 4\%$ FSD
	50 %FSD	Methane 100 %LEL Range: $\leq \pm 4\%$ FSD Ethylene 100 %LEL Range: $\leq \pm 5\%$ FSD
Drift Over Temperature Range (-40°C to 65°C)	Baseline	$\leq \pm 2\%$ FSD
	50 %FSD	Methane 100 %LEL Range: $\leq \pm 0.131\%$ FSD per $^{\circ}\text{C}$ Ethylene 100 %LEL Range: $\leq \pm 0.078\%$ FSD per $^{\circ}\text{C}$
Variation with Pressure	0.1% (of reading) per mbar	
Power Supply	18-32Vdc (24Vdc nom), $< 4.5\text{W}$ max	
Environmental Protection	IP 66 / 67	
Diagnostics (and Re-calibration)	Via certified Hand-held Interrogator, or optional IART® communications	
Safety Approvals	UL / CSA: Class 1, Div 1, groups B, C, and D (-40°C to $+65^{\circ}\text{C}$) IECEx: Ex d IIC Ib IIC T86°C (T_{amb} -40°C to $+55^{\circ}\text{C}$) or T96°C (T_{amb} -40°C to $+65^{\circ}\text{C}$) IP66/6/ ATEX: BAS99ATEX2259X II 2 GD Ex d IIC Gb Ex Ib IIC Db T96°C (T_{amb} -40°C to $+65^{\circ}\text{C}$) T86°C (T_{amb} -40°C to $+55^{\circ}\text{C}$) IP 66/67	
Performance Approvals	CSA C22.2 152., FM ANSI/ISA-12.13.01., EN 60079-29-1 (BVS 03 ATEX G 016 X)	
Functional Safety	IEC61508 Safety Integrity Level 2	
EMC Compliance	EN 50270:2006	
Software	EN 50271:2010	

* Note for ATEX compliance the warning value should not be set between 3 and 5mA

Find out more

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Please Note:

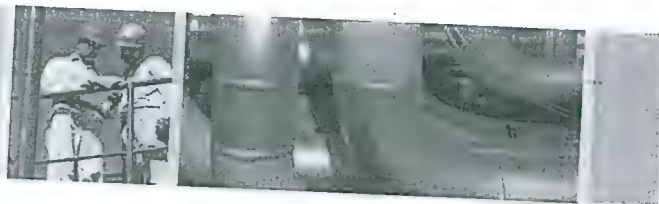
While every effort has been made to ensure accuracy in this publication, no responsibility can be accepted for errors or omissions. Data may change, as well as legislation, and you are strongly advised to obtain copies of the most recently issued regulations, standards, and guidelines. This publication is not intended to form the basis of a contract.

SS0276_v2 4/13
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Optima Plus Part No Decodification 2108N4000N/H



Searchpoint Optima Plus



Why Infrared?

- Failsafe operation
- Fast speed of response
- Reduced routine maintenance
- Immune to catalytic poisons
- Long operating life
- Works in inert atmospheres

Why Searchpoint Optima Plus is the right choice...

- Experience gained from over 100,000 units installed worldwide
- Improved reliability
- Optional HART® over 4-20mA output
- Can detect a wide range of hydrocarbon gases including solvents
- Increased reliability with no moving parts
- Increased stability from self compensating optics
- Immune to long term component drift
- Remote functional gas test facility
- Certified for North American and European Hazardous areas
- Increased false alarm rejection
- Increased uptime with contaminated optics warning
- Dynamic Heating Control ensures condensation free optics
- No undetected failures
- Improved diagnostics
- Integral event logging
- Reduced power consumption
- Certified to many hazardous area classification schemes including: European (ATEX), UL, CSA, IECEx and more

Market leading point infrared Hydrocarbon gas detector offering proven performance and sensitivity

With over 40 years experience in the design, manufacture, installation and maintenance of point infrared gas detection, Honeywell Analytics currently has a Worldwide installed base of over 100,000 infrared point Hydrocarbon gas detectors in a wide spectrum of applications from light industrial to the most demanding of offshore petrochemical environments.

Searchpoint Optima Plus is an infrared point Hydrocarbon gas detector certified for use in potentially explosive atmospheres. The unit's infrared detection principle offers the fastest speed of response and fail-to-safe operation, ensuring that your plant is compliant, your personnel are protected and your production process can deliver maximum uptime. Reduced routine maintenance, when compared with conventional electro-catalytic based gas detectors, provides low ongoing cost of ownership. The development of advanced internal fault diagnostics and false alarm rejection algorithms ensures that Searchpoint Optima Plus delivers the highest level of operational integrity.

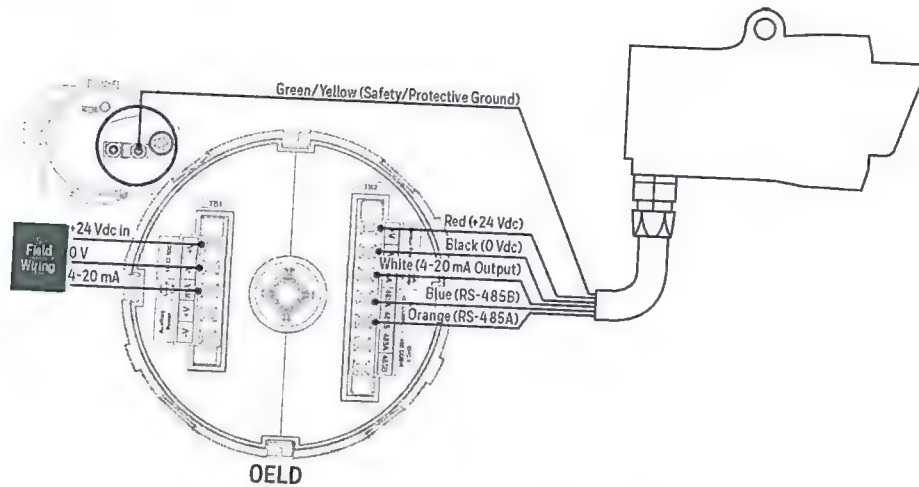
Typical applications include environments that may suffer from the presence of catalytic bead poisons or inhibitors, or where there are harsh environmental conditions forcing increased time between routine maintenance, for example; offshore oil and gas platforms, floating production storage and offloading (FPSO) vessels, tankers, onshore oil and gas terminals, refineries, LNG / LPG bottling plants, gas compressor / metering stations, gas turbine power plants, refineries, solvent printing and coating plants.

Over 100 gas and vapour calibrations are available. For a list of detectable gases and vapours, please contact our Customer Support team or your local distributor.



HART
COMMUNICATION PROTOCOL

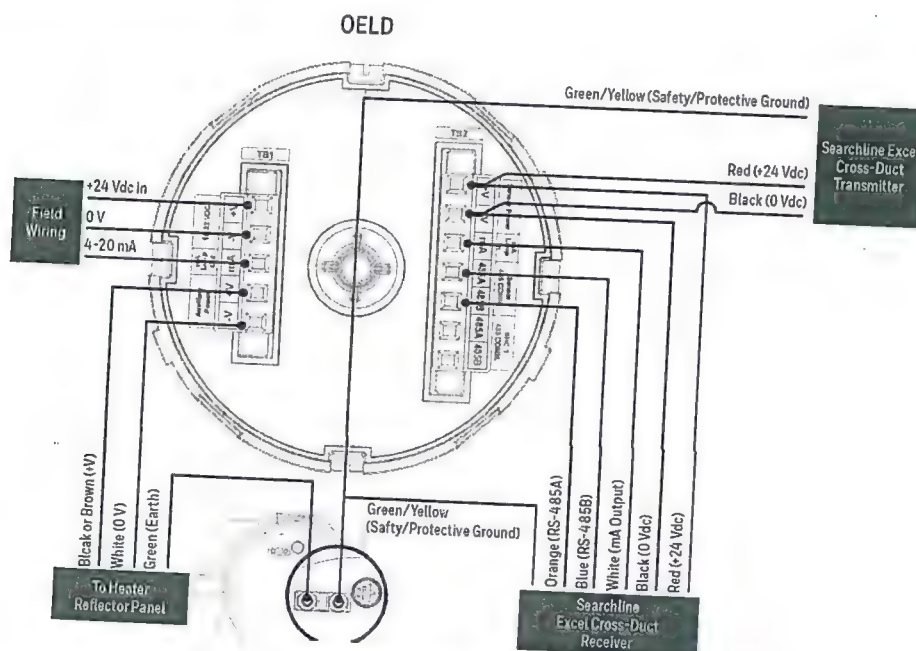
Connecting the OELD to Searchline Excel



<Figure 10. Wiring Diagram for Searchline Excel>

The earth bonding arrangement must ensure that the maximum peak voltage between the unit case earth and any field cable conductor is less than 350V. Voltages in excess of this can cause permanent damage to the units' internal RFI protection filters.

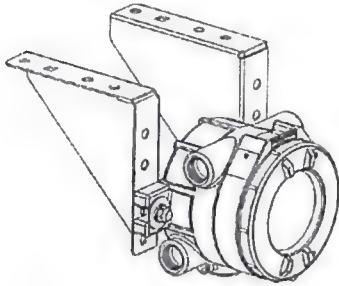
Connecting the OELD to Searchline Excel Cross-Duct (XD)



<Figure 11. Wiring Diagram for Searchline Excel Cross-Duct>

The earth bonding arrangement must ensure that the maximum peak voltage between the unit case earth and any field cable conductor is less than 350V. Voltages in excess of this can cause permanent damage to the units' internal RFI protection filters.

2.2.2 Ceiling Mount Bracket Kit (1226A0355)



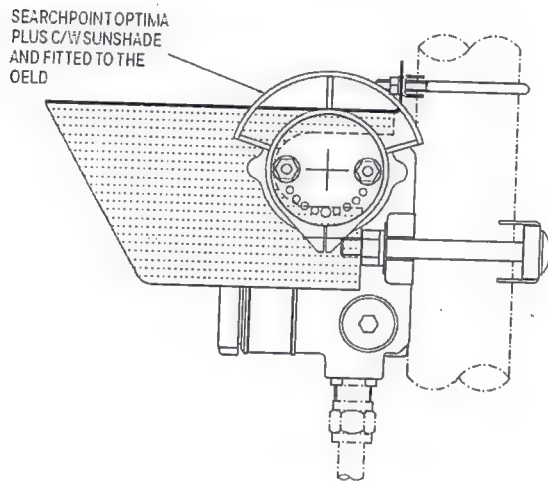
The Ceiling Mount Bracket Kit (1226A0355) allows the OELD to be mounted to the ceiling. The kit includes two stainless steel ceiling mount brackets, bolts, and nuts.

Note

When considering the final mounting position using the Ceiling Mount Bracket Kit, consider the ability to see the OELD display when installed.

◁Figure 3. Ceiling-Mounted OELD▷

2.2.3 Sunshade (94000-A-1006)



A sunshade manufactured from 316 stainless steel, is available which covers the OELD and can extend over either side to also provide protection to a Searchpoint Optima or Searchline Excel

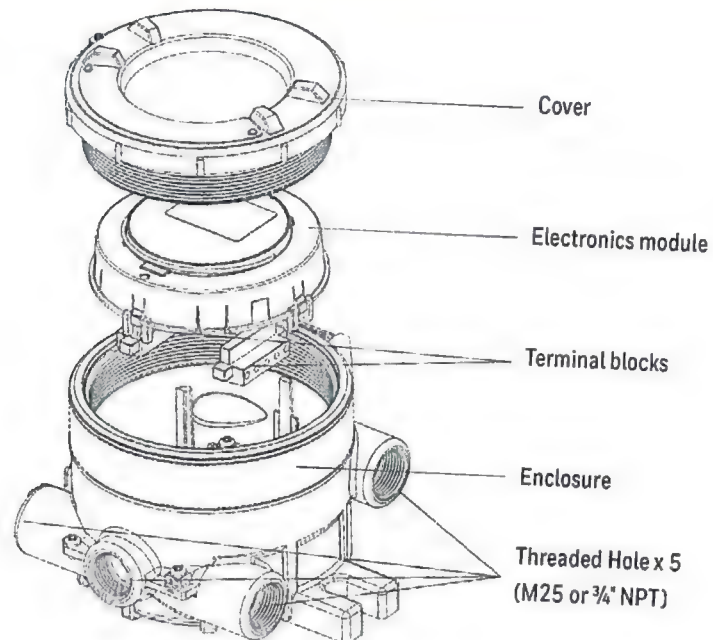
The sunshade slots over the OELD mounting bolts so no additional fixings are required and is stainless steel 316.

Use the sunshade to reduce the effects of direct solar heating.

◁Figure 4. OELD with Sunshade▷

WARNING

When operating in the hazardous location, ensure that the mobile device being used is suitably certified for that area.



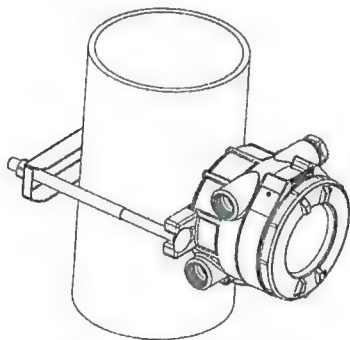
<Figure 1. OELD Exploded View>

2.2 Optional Accessories

Note

The optional pipe mount, ceiling bracket and sunshade accessories are not included as part of the assessment to EN60079-29-1.

2.2.1 Pipe Mount Kit (1226A0358)



The Pipe Mount kit (1226A0358) allows the OELD to be mounted to pipe from 2" to 6" (50 to 150 mm) in diameter. The kit includes the pipe mount bracket, two carriage bolts, nuts, and lock washers.

<Figure 2. Pipe-Mounted OELD>

Digital Linear Heat Detection Cable 88° with Nylon Alarmline II Series



Overview

The Digital Linear Heat Detection (LHD) cable with a 88°C fixed temperature activation rating has a nylon outer sheath for UV protection and increased durability for external applications. It is supplied in 100m, 500m and 1,000m lengths.

The AD range of digital sensor cables provides a very simple fixed temperature heat detection system which can be used in many applications where other forms of detection are not suitable.

Operation

The AD range of digital LHD cables contains a pair of twisted, low resistance, tri-metallic conductors sheathed with advanced temperature sensitive polymers. The cable operates by softening the insulation of the conductors, the tension of the twisted conductors then causes the two cores to fuse together. The sensor cable provides a simple switch operation which when used with a combination of end-of-line (EOL) monitoring and alarm trigger resistors can signal an alarm to any fire monitoring equipment through any monitored input, ie. conventional detection zone or addressable interface unit.

Location Control Unit

Additional to the LHD sensor cable, an optional digital location control unit which monitors the sensor cable and can identify along the length of the sensor cable where an alarm condition has occurred, is also available.

Cable fixings for all applications

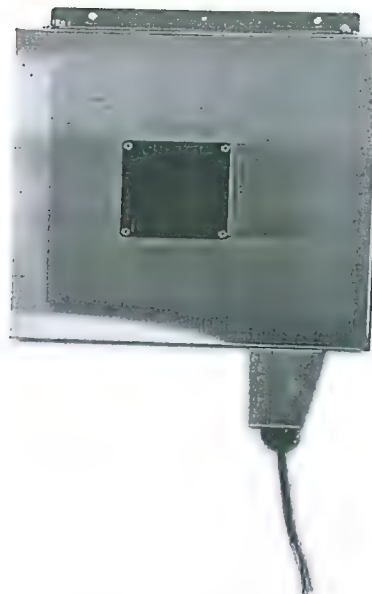
A range of 'edge', 'A', 'P' and 'T' clips allow the cable to be properly installed. The clips provide heat insulation as well as holding the cable at the correct distance from cable trays, steel works, ceilings and walls.

Standard Features

- cUL/UL 521 approved
- FM approved (Class 3210)
- Up to 3,000m per zone
- Detection along total cable length
- Optional extrusions for different environments
- Simple maintenance free installation
- Suitable for use in hazardous areas

Auto Cable Reeler

Alarmline II Series



Overview

The automatic cable reels are supplied with an explosion proof polycarbonate junction box (K241EX) or Stainless Steel junction box (K247EX). A cable reeler is normally placed on the roof of a floating roof tank structure where it ensures electrical continuity between linear heat detection (LHD) sensor cable and the fire detection system during the upward and downward movement of the floating roof. The cable reeler ensures that the cable remains taut and prevents that cable from getting jammed in the moving parts of the roof.

Installation

Installed on the top rim of a tank body, the cable is connected to a junction box (eg. 1-B6782-190) on the tank roof. The reeler follows the movement of the roof, uncoiling the cable as the roof lowers, and winding the cable when the roof rises.

Application

The 1-53836-K241EX supports a cable drop of up to 25m. For hazardous areas, suitable safety barriers are required.

Standard Features

- Simplifies electrical connections of floating roof tanks
- Collects and releases cable in moving installations avoiding cable jams
- Supplied with suitable chemical resistant cable
- Flame retardant

LHD Cable Accessory - Tie Wrap & Tool (ACA-TW/ACA-TWT) Alarmline II Series



Overview

The ACA-TW series tie wraps (cable ties) are designed to secure linear heat sensor cable to the LHD brackets and clips. The tie wraps are available in various temperature ratings for matching or surpassing the temperature specifications of the selected LHD sensor cable.

UV stabilised and stainless steel variants are suitable for outdoor applications whilst stainless steel variants additionally allow for the installation of very high temperature digital cable.

A tool (ACA-TWT) is available for the stainless steel tie wrap installation.

Stainless Steel Tie Wrap Tool

The ACA-TWT is a tie wrap (cable tie) tensioner and cutter for ACA-TWSS stainless steel cable ties.



Standard Features

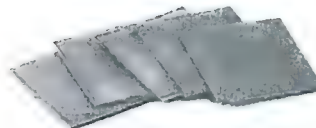
Tie Wrap

- Easy installation of linear heat cable
- For use with LHD brackets and clips
- Indoor and outdoor applications
- Available in PA66, ETFE and stainless steel
- Available in quantities of 25 or 100

Tie Wrap Tool (Stainless Steel)

- Easy fitment of stainless steel tie wraps
- Tensions and cuts

LHD Cable Accessory - Silicone Sleeve (ACA-RS) Alarmline II Series



Overview

The ACA-RS series silicone sleeves are designed to protect linear heat sensor cable against mechanical damage from the tie wrap used when the cable is secured. The ACA-RS is a split sleeve used to protect the sensor cable from being crushed or damaged when attached to fixing clips or brackets. It acts as an insulator to prevent the transfer of heat through these metal clips or brackets to the LHD cable, and is fire resistant.

Standard Features

- Protection of linear heat cable against mechanical damage
- For use with any LHD fastening brackets or clips
- Fire resistant
- Available in quantities of 25 or 100

LHD Cable Accessory - Bracket "L" with sleeve (ACA-BL) Alarmline II Series

Overview

The ACA-BL series L-bracket is designed to support linear heat cable above the risk area, eg. the top run of a cable tray. A silicon protection sleeve is supplied with the unit to protect the sensor cable when fastened to the bracket.

Installation

The ACA-BL may be fitted to the cable tray and secured in place using a suitable bolt and nut at one end. The hole at the other end of the bracket allows for the securing of the sensor cable using a silicone sleeve and cable tie. The L-bracket allows support for the sensor cable at the selected distance away from the detection area.

Recommended spacing: 1m.



Standard Features

- Easy installation of linear heat cable
- For use on cable trays
- Available in zintec or stainless steel
- Available in quantities of 25 or 100



ACA-BL20-025

LHD Cable Accessory - Bracket "L", 200mm (7.9") (Zintec) w/ Sleeve - Qty25



Details

- Easy installation of linear heat cable
- For use on cable trays
- Available in zintec
- Available in quantities of 25



PS10 SERIES PRESSURE SWITCH



UL, cUL, and CSFM Listed, FM and LPC Approved, NYMEA Accepted, CE Marked

Dimensions: 3.78" (9,6cm)W x 3.20" (8,1cm)D x 4.22" (10,7cm)H

Conduit Entrance: Two knockouts provided for 1/2" conduit. Individual switch compartments and ground screws suitable for dissimilar voltages.

Enclosure: Cover - Die-cast with textured red powdercoat finish, single cover screw and rain lip.

Base - Die-cast

Pressure Connection: Nylon 1/2" NPT Male

Factory Adjustment: 4 - 8 PSI (0,27 - 0,55 BAR)

Differential: 2 PSI (0,13 BAR) typical

Maximum System Pressure: 300 PSI (20,68 BAR)

Switch Contacts: SPDT (Form C)

10.1 Amps at 125/250VAC, 2.0 Amps at 30VDC

One SPDT in PS10-1, Two SPDT in PS10-2

Environmental Specifications:

NEMA 4/IP66 Rated Enclosure - indoor or outdoor when used with NEMA 4 conduit fittings.

Temperature range: -40°F to 140°F (-40°C to 60°C)

Service Use:

Automatic Sprinkler

One or two family dwelling

Residential Occupancy up to four stories

National Fire Alarm Code

NFPA-13

NFPA-13D

NFPA-13R

NFPA-72

Ordering Information

Model	Description	Stock No.
PS10-1	Pressure switch with one set SPDT contacts	1340103
PS10-2	Pressure switch with two sets SPDT contacts	1340104
	Hex Key	5250062
	Cover Tamper Switch Kit	0090200

Tamper

Cover incorporates tamper resistant fastener that requires a special key for removal. One key is supplied with each device. For optional cover tamper switch kit, order Stock No. 0090200. See bulletin #5401200 PSCTSK.

Installation

The Potter PS10 Series Pressure Actuated Switches are designed for the detection of a waterflow condition in automatic fire sprinkler systems of particular designs such as wet pipe systems with alarm check valves, dry pipe, preaction, or deluge valves. The PS10 is also suitable to provide a low pressure supervisory signal; adjustable between 4 and 15 psi (0,27 and 1,03 BAR).

1. Apply Teflon tape to the threaded male connection on the device. (Do not use pipe dope)
2. Device should be mounted in the upright position (threaded connection down).
3. Tighten the device using a wrench on the flats on the device.

Wiring Instructions

1. Remove the tamper resistant screw with the special key provided.
2. Carefully place a screwdriver on the edge of the knockout and sharply apply a force sufficient to dislodge the knockout plug. See Fig 9
3. Run wires through an approved conduit connector and affix the connector to the device.
4. Connect the wires to the appropriate terminal connections for the service intended. See Figures 2,4,5, and 6. See Fig 7 for two switch, one conduit wiring.

Testing

The operation of the pressure alarm switch should be tested upon completion of installation and periodically thereafter in accordance with the applicable NFPA codes and standards and/or the authority having jurisdiction (manufacturer recommends quarterly or more frequently).

Wet System

Method 1: When using PS10 and control unit with retard - connect PS10

into alarm port piping on the input side of retard chamber and electrically connect PS10 to control unit that provides a retard to compensate for surges. Insure that no unsupervised shut-off valves are present between the alarm check valve and PS10.

Method 2: When using the PS10 for local bell application or with a control that does not provide a retard feature - the PS10 must be installed on the alarm outlet side of the retard chamber of the sprinkler system.

Testing: Accomplished by opening the inspector's end-of-line test valve. Allow time to compensate for system or control retard.

Note: Method 2 is not applicable for remote station service use, if there is an unsupervised shut-off valve between the alarm check valve and the PS10.

Wet System With Excess Pressure

Connect PS10 into alarm port piping extending from alarm check valve. Retard provisions are not required. Insure that no unsupervised shut-off valves are present between the alarm check valve and the PS10.

Testing: Accomplished by opening the water by-pass test valve or the inspector's end-of-line test valve. When using end-of-line test, allow time for excess pressure to bleed off.

Dry System

Connect PS10 into alarm port piping that extends from the intermediate chamber of the alarm check valve. Install on the outlet side of the in-line check valve of the alarm port piping. Insure that no unsupervised shut-off valves are present between the alarm check valve and the PS10.

Testing: Accomplished by opening the water by-pass test valve.

Note: The above tests may also activate any other circuit closer or water motor gongs that are present on the system.

Potter Electric Signal Company, LLC • St. Louis, MO • Phone: 866-956-0988/Canada 888-882-1833 • www.pottersignal.com

PRINTED IN USA

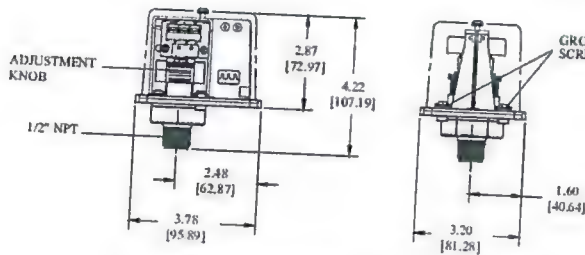
MFG. #5400928 - REV D-1
12/10

PAGE 1 OF 3

POTTER

The Symbol of Protection

Dimensions
Fig. 1

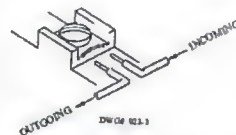


NOTE: To prevent leakage, apply Teflon tape sealant to male threads only.

DWG 930-1

PS10 SERIES PRESSURE SWITCH

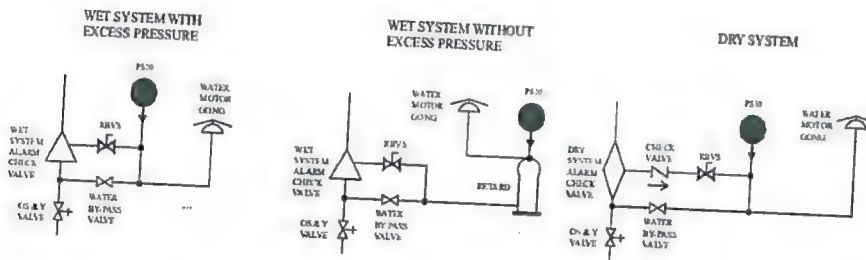
Switch Clamping Plate Terminal
Fig. 2



WARNING

An uninsulated section of a single conductor should not be looped around the terminal and serve as two separate connections. The wire must be severed, thereby providing supervision of the connection in the event that the wire becomes dislodged from under the terminal.

Typical Sprinkler Applications
Fig. 3

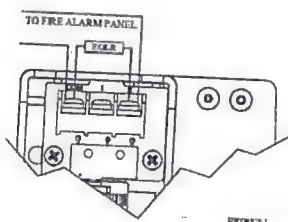


DWG 932-2A

CAUTION

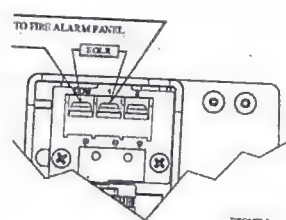
Closing of any shutoff valves between the alarm check valve and the PS10 will render the PS10 inoperative. To comply with NFPA-72 any such valve shall be electrically supervised with a supervisory switch such as Potter Model RBVS.

Low Pressure Signal Connection
Fig. 4



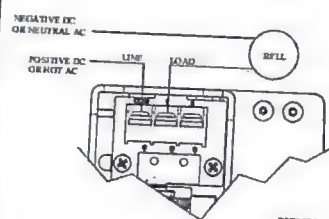
DWG 933-1

Waterflow Signal Connection
Fig. 5



DWG 933-2

Local Bell For Waterflow Connection
Fig. 6



DWG 933-3

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MFG. #5400928 - REV D-1
12/10

PAGE 2 OF 3



Project: 01251-100
CRUDE OIL TANK FARM PROJECT (AGROOD AREA)



System ID	030-LP-005
System Description	Tank-1 Fire Protection System

12.03- Motor Datasheets

System ID	030-LP-005
System Description	Tank-1 Fire Protection System

12.04- Electrical Cables Schedule

CLIENT: EGPC
LOCATION: AGROOD-1
PROJECT NO. 1251-100
INSTRUMENT CABLES LIST FIELD

EGPC
CRUDE OIL TANK FARM
FIRE AND GAS SYSTEM CABLE SCHEDULE

DOC. NO.: 01251-100-000-ASS-001
REV.: 2
DATE: 15/11/2020

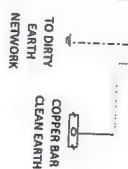
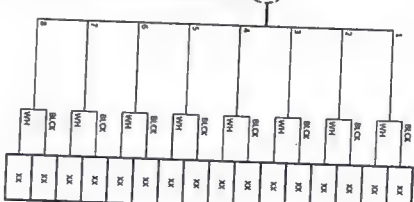
ITEM	CABLE TAG	CABLE COMPOSITION mm ²	SIGNAL TYPE	SHIELDING		ARM	FROM	TO	LENGTH (m)	EXT. COLOUR SHEATH	EXT. DIA. (mm)	GLAND TYPE (NOTE-2)	DRUM NO.	CABLE CODE	NOTE	Rev
				Overall	Min.											
6	000C002	1X3X2.5mm ²	AI			YES	000C002	000A001	400	RED	17.53	PA901-1420	CD-000-F3-02	F3		2
7	000F004	1X3X2.5mm ²	AI	YES		YES	000F004	000A001	910	RED	17.53	PA901-1420	CD-000-F3-02	F3		2
8	000C004	1X3X2.5mm ²	AI	YES		YES	000C004	000A001	810	RED	17.53	PA901-1420	CD-000-F3-02	F3		2
9	000C005	1X3X1.5mm ²	AI	YES		YES	000C005	000A001	20	RED	17.53	PA901-1420	CD-000-F3-02	F3		2
10	000C006	1X3X1.5mm ²	AI	YES		YES	000C006	000A001	20	RED	16	PA901-1420	CD-000-F3-01	F3		2
11	000F005	1X3X1.5mm ²	AI	YES		YES	000F005	000A001	20	RED	16	PA901-1420	CD-000-F3-01	F3		2
2	000C015	1X3X1.5mm ²	AI	YES		YES	000C015	000A002	130	RED	16	PA901-1420	CD-000-F3-01	F3		2
3	000F008	1X3X1.5mm ²	AI	YES		YES	000F008	000A002	130	RED	16	PA901-1420	CD-000-F3-01	F3		2
4	000C009	1X3X1.5mm ²	AI	YES		YES	000C009	000A002	50	RED	16	PA901-1420	CD-000-F3-01	F3		2
5	000C010	1X3X1.5mm ²	AI	YES		YES	000C010	000A002	50	RED	16	PA901-1420	CD-000-F3-01	F3		2
6	000C007	1X3X1.5mm ²	AI	YES		YES	000C007	000A002	40	RED	16	PA901-1420	CD-000-F3-01	F3		2
7	000C008	1X3X1.5mm ²	AI	YES		YES	000C008	000A002	40	RED	16	PA901-1420	CD-000-F3-01	F3		2
8	000F007	1X3X1.5mm ²	AI	YES		YES	000F007	000A002	20	RED	16	PA901-1420	CD-000-F3-01	F3		2
9	000F006	1X3X1.5mm ²	AI	YES		YES	000F006	000A002	20	RED	16	PA901-1420	CD-000-F3-01	F3		2
1	000F010	1X3X1.5mm ²	AI	YES		YES	000F010	000A003	80	RED	16	PA901-1420	CD-000-F3-01	F3		2
2	000F011	1X3X1.5mm ²	AI	YES		YES	000F011	000A003	80	RED	16	PA901-1420	CD-000-F3-01	F3		2
3	000F008	1X3X1.5mm ²	AI	YES		YES	000F008	000A003	30	RED	16	PA901-1420	CD-000-F3-01	F3		2
4	000C013	1X3X1.5mm ²	AI	YES		YES	000C013	000A003	30	RED	16	PA901-1420	CD-000-F3-01	F3		2
5	000C014	1X3X1.5mm ²	AI	YES		YES	000C014	000A003	30	RED	16	PA901-1420	CD-000-F3-01	F3		2
6	000C011	1X3X1.5mm ²	AI	YES		YES	000C011	000A003	110	RED	16	PA901-1420	CD-000-F3-01	F3		2
7	000C012	1X3X1.5mm ²	AI	YES		YES	000C012	000A003	20	RED	16	PA901-1420	CD-000-F3-01	F3		2
8	000F012	1X3X1.5mm ²	AI	YES		YES	000F012	000A003	170	RED	16	PA901-1420	CD-000-F3-01	F3		2
9	000F009	1X3X1.5mm ²	AI	YES		YES	000F009	000A003	170	RED	16	PA901-1420	CD-000-F3-01	F3		2
15	000F015	4X2X1.5mm ²	DIGITAL	YES		YES	000F015	000A003	220	RED	23.2	PA901-1420	CD-000-F3-01	F3		2
16	000F016	4X2X1.5mm ²	DIGITAL	YES		YES	000F016	000A003	220	RED	23.2	PA901-1420	CD-000-F3-01	F3		2
17	000F015	8X2X1.5mm ²	DIGITAL	YES		YES	000F015	000A003	240	RED	23.2	PA901-1420	CD-000-F3-01	F3		2
18	000F015	8X2X1.5mm ²	DIGITAL	YES		YES	000F015	000A003	240	RED	23.2	PA901-1420	CD-000-F3-01	F3		2
19	000F015	8X2X1.5mm ²	DIGITAL	YES		YES	000F015	000A003	240	RED	23.2	PA901-1420	CD-000-F3-01	F3		2
20	000F015	12X2X1.5mm ²	DIGITAL	YES		YES	000F015	000A003	470	RED	33.5	PA901-1420	CD-000-F3-01	F3		2
21	000F015	12X2X1.5mm ²	DIGITAL	YES		YES	000F015	000A003	470	RED	33.5	PA901-1420	CD-000-F3-01	F3		2
22	000F015	12X2X1.5mm ²	DIGITAL	YES		YES	000F015	000A003	70	RED	33.5	PA901-1420	CD-000-F3-01	F3		2
23	000F015	12X2X1.5mm ²	DIGITAL	YES		YES	000F015	000A003	90	RED	33.5	PA901-1420	CD-000-F3-01	F3		2
24	000F015	1X2X1.5mm ²	DIGITAL	NO		NO	000F015	000A003	1000	RED	11.81	PA901-1420	CD-000-F3-01	F3		2
25	000F015	1X2X1.5mm ²	DIGITAL	NO		NO	000F015	000A003	1000	RED	11.81	PA901-1420	CD-000-F3-01	F3		2
26	000F015	1X2X1.5mm ²	DIGITAL	NO		NO	000F015	000A003	1000	RED	11.81	PA901-1420	CD-000-F3-01	F3		2
27	000F015	1X2X1.5mm ²	DIGITAL	NO		NO	000F015	000A003	1000	RED	11.81	PA901-1420	CD-000-F3-01	F3		2
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31	000F015	1X2X1.5mm ²	DIGITAL	NO		NO	000F015	000A003	1000	RED	11.81	PA901-1420	CD-000-F3-01	F3		2
32	000F015	1X2X1.5mm ²	DIGITAL	NO		NO	000F015	000A003	1000	RED	11.81	PA901-1420	CD-000-F3-01	F3		2
33	000F015	1X2X1.5mm ²	DIGITAL	NO		NO	000F015	000A003	1000	RED	11.81	PA901-1420	CD-000-F3-01	F3		2
34	000F015	1X2X1.5mm ²	DIGITAL	NO		NO	000F015	000A003	1000	RED	11.81	PA901-1420	CD-000-F3-01	F3		2
35	000F015	1X2X1.5mm ²	DIGITAL	NO		NO	000F015	000A003	1000	RED	11.81	PA901-1420	CD-000-F3-01	F3		2
36	000F015	1X2X1.5mm ²	DIGITAL	NO		NO	000F015	000A003	1000	RED	11.81	PA901-1420	CD-000-F3-01	F3		2
37	000F015	1X2X1.5mm ²	DIGITAL	NO		NO	000F015	000A003	1000	RED	11.81	PA901-1420	CD-000-F3-01	F3		2
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40	000F015	1X2X1.5mm ²	DIGITAL	NO		NO	000F015	000A003	1000	RED	11.81	PA901-1420	CD-000-F3-01	F3		2
41	000F015	1X2X1.5mm ²	DIGITAL	NO		NO	000F015	000A003	1000	RED	11.81	PA901-1420	CD-000-F3-01	F3		2
42	000F015	1X2X1.5mm ²	DIGITAL	NO		NO	000F015	000A003	1000	RED	11.81	PA901-1420	CD-000-F3-01	F3		2
43	000F015	1X2X1.5mm ²	DIGITAL	NO		NO	000F015	000A003	1000	RED	11.81	PA901-1420	CD-000-F3-01	F3		2
44	000F015	1X2X1.5mm ²	DIGITAL	NO		NO	000F015	000A003	1000	RED	11.81	PA901-1420	CD-000-F3-01	F3		2
45	000F015	1X2X1.5mm ²	DIGITAL	NO		NO	000F015	000A003	1000	RED	11.81	PA901-1420	CD-000-F3-01	F3		2
46	000F015	1X2X1.5mm ²	DIGITAL	NO		NO	000F015	000A003	1000	RED	11.81	PA901-1420	CD-000-F3-01	F3		2

CLIENT:	EGPC
LOCATION:	AGROOD-1
PROJECT NO.	1251-100
INSTRUMENT CABLES LIST FIELD	

EGPC
CRUDE OIL TANK FARM
FIRE AND GAS SYSTEM CABLE SCHEDULE

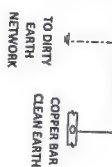
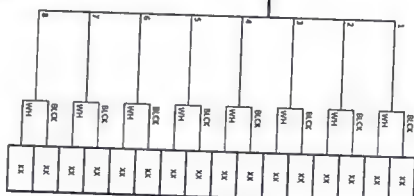
DOC. NO.: 01251-100-030-ASS-00
REV.: 2
DATE: 15/11/2020

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INTERCONNECTING WIRING DIAGRAM FOR JUNCTION BOX

NOTES[illegible]

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EXCELLENT FOR THE PETROLEUM AND FOODS MARKETS

EGPC

CRUDE OIL TANK FARM

FIRE AND GAS INTERCONNECTING WIRING DIAGRAM

DRAWING NUMBER:	SCALE	SHEET	REVISION

01251-100-030-AWD-001	NOISE	4 OF 25
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AI SET: 420 K

System ID	030-LP-005
System Description	Tank-1 Fire Protection System

12.05- Electrical Cables Laying Certificates

System ID	030-LP-005
System Description	Tank-1 Fire Protection System

12.06- Electrical Cables Testing Certificates



EGPC CRUDE OIL TANK FARM



INSPECTION AND TEST REPORT FOR

CABLE INSULATION RESISTANCE TEST

INSPECTION REPORT NUMBER

REF: 177

INSTRUMENT TYPE:

INSPECTION DATE & TIME

SERIAL:

SERVICE VOLTAGE:

220 V

DOCUMENT NO
ITR-EL-0006A

DISCIPLINE
ELECTRICAL

SYSTEM NO.:

SHEET NO

TEST VOLTAGE:

1kv

AREA / PACKAGE:

N O	Item/Tag NO.	CABLE SIZE	Continuity Test	PHASE TO PHASE "M.Ohm"			PHASE TO NUETRAL "M.Ohm"			PHASES & NUETRAL TO ARMOR "M.Ohm"			RESULT		
				BR-BK	BR-GR	BK-GR	BR-B	BK-B	GR-B	BR-ARM	BK-ARM	GR-ARM	B-ARM	Pass	FAIL
1	030-PSH-002	1*2*1.5	✓	}		Phase to phase								✓	
2	030-PSH-004	1*2*1.5	✓											✓	
3	030-PSH-006	1*2*1.5	✓											✓	
4	030-PSH-008	1*2*1.5	✓											✓	
5	030-ACP-001	1*2*1.5	✓											✓	
6	03a-JR1-002	8*2*1.5	✓											✓	
7														✓	
8														✓	
9															
10															
11															
12															
13															
14															
15															
16															
17															
18															
19															

Remarks :-

Reference :-

	PETROJET	ENPPI	PMC
--	----------	-------	-----

NAME

SIGNATURE

DATE

[Signature]

Islam Sherif

[Signature]



Enppi

PTJ-JET

EGPC CRUDE OIL TANK FARM



INSPECTION AND TEST REPORT FOR

CABLE INSULATION RESISTANCE TEST

INSPECTION REPORT NUMBER

PTJ-INST-RFI-80

INSPECTION DATE & TIME

SYSTEM NO.:

INSTRUMENT TYPE:

FLUKE 1507 INSULATION TESTER

SERIAL:

46240215WS

SERVICE VOLTAGE:

24

DOCUMENT NO.

ITR-EL-0006B

DISCIPLINE

INST

TEST VOLTAGE:

250

AREA / PACKAGE:

NO	Item/Tag NO.	CABLE SIZE	Continuity Test	pair conductors	conductors to armor	Shield to Shield	All Conductors-GND	Overall Shield-GND	Armor-GND	RESULT
1	030-STR-002	1X2X2.5	✓	25-0				7270 MΩ		Pass
2	030-STB-002	1X2X2.5	✓							✓
3	030-HR-002	1X2X2.5	✓							✓
4	030-PSH-001 A	1X2X2.5	✓							✓
5	030-PSH-001 B	1X2X2.5	✓							✓
6	030-PSH-001 C	1X2X2.5	✓							✓
7	030-PSH-001 D	1X2X2.5	✓							✓
8	030-PSH-003 A	1X2X2.5	✓							✓
9	030-PSH-003 B	1X2X2.5	✓							✓
10	030-PSH-003 C	1X2X2.5	✓							✓
11	030-PSH-003 D	1X2X2.5	✓							✓
12	030-PSH-007 A	1X2X2.5	✓							✓
13	030-PSH-007 B	1X2X2.5	✓							✓
14	030-PSH-007 C	1X2X2.5	✓							✓
15	030-PSH-007 D	1X2X2.5	✓	25-0				7270 MΩ		✓
16										✓
17										✓

Remarks :-

Reference

NAME:

SIGNATURE

DATE

PETROJET

ENPPI

PMC

Islam Sherif

ITR-EL-0006B



Enppi

EGPC CRUDE OIL TANK FARM



INSPECTION AND TEST REPORT FOR

CABLE INSULATION RESISTANCE TEST

INSPECTION REPORT NUMBER

RFI-17/114

INSTRUMENT TYPE:

INSPECTION DATE & TIME

DOCUMENT No.
ITR-EL-0006A

SHEET NO

SYSTEM NO.:

SERIAL:

SERVICE VOLTAGE:
220 v

TEST VOLTAGE:
1kv

AREA / PACKAGE:

NO	Item/Tag NO.	CABLE SIZE	Continuity Test	PHASE TO PHASE "M.Ohm"			PHASE TO NEUTRAL "M.Ohm"			PHASES & NEUTRAL TO ARMOR "M.Ohm"			RESULT	
				BR-BK	BR-GR	BK-GR	BR-B	BK-B	GR-B	BR-ARM	BK-ARM	GR-ARM	B-ARM	Pass / FAIL
1	030-LHD-001	1x2x1.5	✓											✓
2	030-LHD-002	1x2x1.5	✓											✓
3	030-GD-001	1x3x1.5	✓											✓
4	030-FD-001	1x3x1.5	✓											✓
5														
6														
7														
8														
9														
10														
11														
12														
13														
14														
15														
16														
17														
18														
19														
20														
21														

Remarks :-

Reference :-

PETROJET

ENPPI

PMC

NAME

SIGNATURE

DATE

M. Omar

ITR-EL-0006A



Project: 01251-100
CRUDE OIL TANK FARM PROJECT (AGROOD AREA)



System ID	030-LP-005
System Description	Tank-1 Fire Protection System

12.07- Electrical Cables Termination Certificates

**Enppi**

EGPC CRUDE OIL TANK FARM



Owner : Egyptian General Petroleum Corporation (EGPC)

Project No: 01251-100-030
:01251-100-031

Contractor CONSORTIUM (ENPPI / PETROJET)

Document No: ITR-QC-0001
Revision No. : 00**REQUEST FOR INSPECTION**

ACTIVITY : INS INSTALLATION / CABLE TERMINATION

NOTIFICATION NO. : PTJ-INS-RFI- 114 DISCIPLINE : E&I

DATE : 8/26/2021

NO.	DESCRIPTION	LOCATION	DATE / TIME	INSPECTION			REMARKS
				PETROJET	ENPPI	PMC	
	INS INSTALLATION / CABLE TERMINATION	MODULE 1	26-Aug-21				
1	030-LHD-001						
2	030-LHD-002						
3	030-GD-001						
4	030-FD-001						
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							

NOTE:

Inspection result : A - Approved B - Reject C - Approved with Comment

	PETROJET	ENPPI	PMC
NAME			
SIGNATURE	<i>Sob</i>	<i>[Signature]</i>	<i>m.omar</i>
DATE			

ITR-QC-0001

INSPECTION AND TEST REPORT FOR
CABLE TERMINATION AND SPLICING

SYSTEM NO.:

INSPECTION REPORT NUMBER

INSPECTION DATE & TIME

ITR NUMBER

DISPLINE

SHEET NO

REF-114

ITR-EL-0009

ELEC

1 OF 1

Item/Tag NO.

Type :-

Core:

Size:

NO.	Description of check	RESUNT		
		ACCEPT	REJECT	N/A.
1	Check cable glands are correct type and size as per cable schedule.	✓		
2	Check there are no damages to cores, termination chamber layout is satisfactory, core identification is correct, crimped and pins satisfactory.	✓		
3	Check cable tag is done correctly.	✓		
4	Test and confirm conductor, phase continuity.	✓		
5	Check insulation resistance test (megger) is completed **	✓		
6	Check Hi-pot test is completed, only for MV/HV cables ***			✓
7	Connect all cores at both ends and confirm all connections are correct as per termination diagram.	✓		
8	Confirm spare cores, screens are earthed and conform to design drawings/specifications	✓		
9	Check enclosure cover is installed , no damages and no bolts are missing	✓		
10	Calibration test certificate of testing equipment to be checked.			✓

Remarks :

	PETROJET	ENPPI	PMC
NAME :			
SIGNATURE	<i>Sobh</i>	<i>Reza</i>	<i>M. Omar</i>
DATE			

ITR-EL-0009

**Enppi****EGPC CRUDE OIL TANK FARM**Owner: **Egyptian General Petroleum Corporation (EGPC)**Project No: 01251-100-030
:01251-100-031Contractor: **CONSORTIUM (ENPPI / PETROJET)**Document No: ITR-QC-0001
Revision No.: 00**REQUEST FOR INSPECTION**ACTIVITY: **F&G DEVICE TERMINATION**NOTIFICATION NO.: **PTJ-INST-RFI-80** DISCIPLINE: **F&G**DATE: **6/10/2021**

NO.	DESCRIPTION	LOCATION	DATE / TIME	INSPECTION			REMARKS
				PETROJET	ENPPI	PMC	
	F&G device TERMINATION	Field	10-Jun-21				
1	030-STR-002						
2	030-STB-002						
3	030-HR-002						
4	030-PSH-001 A						
5	030-PSH-001 B						
6	030-PSH-001 C						
7	030-PSH-001 D						
8	030-PSH-003 A						
9	030-PSH-003 B						
10	030-PSH-003 C						
11	030-PSH-003 D						
12	030-PSH-007 A						
13	030-PSH-007 B						
14	030-PSH-007 C						
15	030-PSH-007 D						
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							

NOTE:

Inspection result : A - Approved B - Reject C - Approved with Comment

all tags must be installed. (Done) sub

	PETROJET	ENPPI	PMC
NAME:			
SIGNATURE	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>
DATE			

INSPECTION AND TEST REPORT FOR
CABLE TERMINATION AND SPLICING

INSPECTION REPORT NUMBER PTJ-INST-RFI-	INSPECTION DATE & TIME	ITR NUMBER ITR-EL-0009	SYSTEM NO.:	DISCIPLINE INST	SHEET NO 1 OF 1
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Item/Tag NO.

Type :-

Core:

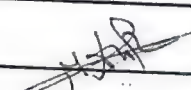
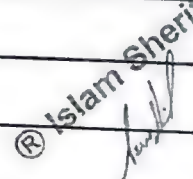
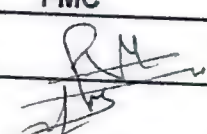
Size:

NO.	Description of check	RESULT		
		ACCEPT	REJECT	N/A.
1	Check cable glands are correct type and size as per cable schedule.	✓		
2	Check there are no damages to cores, termination chamber layout is satisfactory, core identification is correct, crimped and pins satisfactory.	✓		
3	Check cable tag is done correctly.			
4	Test and confirm conductor, phase continuity.	✓		✓
5	Check insulation resistance test (megger) is completed * ¹	✓		
6	Check Hi-pot test is completed, only for MV/HV cables * ¹¹			
7	Connect all cores at both ends and confirm all connections are correct as per termination diagram.	✓		✓
8	Confirm spare cores, screens are earthed and conform to design drawings/specifications			✓
9	Check enclosure cover is installed , no damages and no bolts are missing			✓
10	Calibration test certificate of testing equipment to be checked.			✓

Remarks :

*¹ : ITR-EL-006A/B

*¹¹ : ITR-EL-008

	PETROJET	ENPPI	PMC
NAME :			
SIGNATURE			
DATE			

ITR-EL-0009

**Enppi**

EGPC CRUDE OIL TANK FARM



Owner : Egyptian General Petroleum Corporation (EGPC)

Project No: 01251-100-030
:01251-100-031

Contractor CONSORTIUM (ENPPI / PETROJET)

Document No: ITR-QC-0001
Revision No. : 00**REQUEST FOR INSPECTION**

ACTIVITY : CABLE TERMINATION AND SPLICING AND INSTALLATION

NOTIFICATION NO. : PTJ-INS-RFI- 79 DISCIPLINE : E&I

DATE : 6/9/2021

NO.	DESCRIPTION	LOCATION	DATE / TIME	INSPECTION			REMARKS
				PETROJET	ENPPI	PMC	
	CABLE TERMINATION AND SPLICING AND INSTALLATION	MODULE 1	9-Jun-21				
1	030-PSH-002						1. Cables to be laid in the trench and backfilled with soft sand (Done) Subl 2. S.S. tray missing in both sides (Done) Subl 3. Cables to be systemized in Cable tray (Done) Subl 4. Cable tray cover missing (Done) Subl
2	030-PSH-004						
3	030-PSH-006						
4	030-PSH-008						
5	030-MCP-001						
6	030-JBF-002						
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							

NOTE:

Inspection result : A - Approved B - Reject C - Approved with Comment

	PETROJET	ENPPI	PMC
NAME :			
SIGNATURE			
DATE			

ITR-QC-0001



EGPC CRUDE OIL TANK FARM



INSPECTION AND TEST REPORT FOR

CABLE TERMINATION AND SPLICING

INSPECTION REPORT NUMBER

INSPECTION DATE & TIME

ITR NUMBER

SYSTEM NO.:

ITR-EL-0009

DISPLINE

ELEC

SHEET NO

1 OF 1

Item/Tag NO.

Type :-

Core:

Size:

NO.	Description of check	RESULT		
		ACCEPT	REJECT	N/A.
1	Check cable glands are correct type and size as per cable schedule.	✓		
2	Check there are no damages to cores, termination chamber layout is satisfactory, core identification is correct, crimped and pins satisfactory.	✓		
3	Check cable tag is done correctly.		✓	
4	Test and confirm conductor, phase continuity.	✓		
5	Check insulation resistance test (megger) is completed *I	✓		
6	Check Hi-pot test is completed, only for MV/HV cables **			
7	Connect all cores at both ends and confirm all connections are correct as per termination diagram.	✓		✓
8	Confirm spare cores, screens are earthed and conform to design drawings/specifications	✓		
9	Check enclosure cover is installed, no damages and no bolts are missing	✓		
10	Calibration test certificate of testing equipment to be checked.			✓

Remarks :

NAME :	PETROJET	ENPPI	PMC
SIGNATURE			
DATE			

ITR-EL-0009

**Enppi****EGPC CRUDE OIL TANK FARM**Owner : **Egyptian General Petroleum Corporation (EGPC)**Project No: 01251-100-030
:01251-100-031Contractor **CONSORTIUM (ENPPI / PETROJET)**Document No: ITR-QC-0001
Revision No. : 00**REQUEST FOR INSPECTION**ACTIVITY : **INSTRUMENT INSTALLATION**NOTIFICATION NO. : **PTJ-INS-RFI- 59** DISCIPLINE : **E&I**DATE : **5/20/2021**

NO.	DESCRIPTION	LOCATION	DATE / TIME	INSPECTION			REMARKS
				PETROJET	ENPPI	PMC	
	INSTRUMENT INSTALLATION	MODULE 1	20-May-21				
1	030-PSH-002						
2	030-PSH-004						
3	030-PSH-006						
4	030-PSH-008						
5	030-PSH-001A						
6	030-PSH-001B						
7	030-PSH-001C						
8	030-PSH-001D						
9	030-PSH-007A						
10	030-PSH-007B						
11	030-PSH-007C						
12	030-PSH-007D						
13							
14							
15							
16							
17							
18							

NOTE:

Inspection result : A - Approved B - Reject C - Approved with Comment

tag no to be install. (Over) Sabh

NAME :	PETROJET	ENPPI	PMC
SIGNATURE	<i>Sabh</i>	<i>Islam Shorif</i>	<i>M. Omar</i>
DATE			

ITR-QC-0001

**Enppi****EGPC CRUDE OIL TANK FARM
AGROOD AREA (MODULE 1 & 2)**

INSPECTION AND TEST REPORT FOR

INSTRUMENT INSTALLATION

INSPECTION REPORT NUMBER

RFI-59

INSPECTION DATE & TIME

ITR NUMBER

ITR-CI-0001

DISCIPLINE

INSTRUMENT

SHEET NO

JOB DESCRIPTION

AREA DESCRIPTION

ENGINEERING DOCUMENT NUMBER

SYSTEM NUMBER (IF APPLICABLE)

SUBCONTRACTOR/SUPPLIER

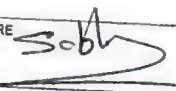
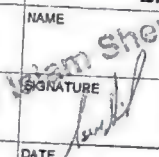
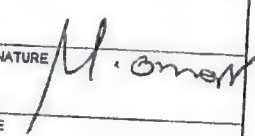
ITEM / TAG NO.

TYPE

NO.	INSPECTION	RESULT		
		ACCEPT	REJECT	N/A.
1	No physical damage are found	✓		
2	Type / size / location as per drawings and vendor data sheet	✓		
3	Identification / name plate attached correctly		✓	
4	Stanchion type / mounting as per drawings	✓		
5	Welding (if required) and touch up	✓		
6	Anchor bolting / Bolt tightening	✓		
7	Grouting (if required)			✓
8	Orientation / direction as per drawings	✓		
9	Accessibility	✓		
10	Assembling compartments properly installed	✓		
11	Earthing and bonding properly installed		✓	
12	Cleanliness	✓		

REMARKS:

REFERENCE DOCUMENTS:

SUBCONTRACTOR		PETROJET		ENPPI		PMC	
NAME		NAME		NAME		NAME	
SIGNATURE		SIGNATURE		SIGNATURE		SIGNATURE	
DATE		DATE		DATE		DATE	

ITR-CI-0001

System ID	030-LP-005
System Description	Tank-1 Fire Protection System

12.08- FAT Reports & Certificates



Project: 01251-100
CRUDE OIL TANK FARM PROJECT (AGROOD AREA)



System ID	030-LP-005
System Description	Tank-1 Fire Protection System

12.09- SAT Reports & Certificates

System ID	030-LP-005
System Description	Tank-1 Fire Protection System

12.10- Electrical Pre-Commissioning Check Lists

System ID	030-LP-005
System Description	Tank-1 Fire Protection System

12.11- Electrical Supplier Check Lists & Reports

System ID	030-LP-005
System Description	Tank-1 Fire Protection System

13- Electrical Commissioning

System ID	030-LP-005
System Description	Tank-1 Fire Protection System

13.01- Electrical -Commissioning Check Lists

System ID	030-LP-005
System Description	Tank-1 Fire Protection System

13.02- Electrical Supplier Check Lists & Reports

System ID	030-LP-005
System Description	Tank-1 Fire Protection System

14- Red Marked-up Drawings



Project: 01251-100
CRUDE OIL TANK FARM PROJECT (AGROOD AREA)



System ID	030-LP-005
System Description	Tank-1 Fire Protection System

14.01- P&ID



Project: 01251-100
CRUDE OIL TANK FARM PROJECT (AGROOD AREA)



System ID	030-LP-005
System Description	Tank-1 Fire Protection System

14.02- Instrumentation Drawings

System ID	030-LP-005
System Description	Tank-1 Fire Protection System

14.03- Electrical Drawings